WM-FS497/FS499

SERVICE MANUAL

US Model
Canadian Model
WM-FS497/FS499
AEP Model
E Model
WM-FS497

Photo : WM-FS497

Manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	WM-EX362/EX364
Tape Transport Mechanism Type	MF-WMEX342-114

SPECIFICATIONS

Frequency range
For US/Canadian area indication:
FM: 87.5 - 108MHz (0.1MHz step)
AM: 530 - 1710kHz (10kHz step)
For AEP, E area indication:
FM : 87.5 - 108MHz (0.05MHz step)
AM: 531 - 1601kHz (9kHz step)

IF
FM: 10.7 MHz
MW/LW: 450 kHz

Aerials
FM: Telescopic aerial
MW/LW: Built-in ferrite bar aerial

Power requirements
3V DC batteries (size AA) R6 × 2

Dimensions
99.8 × 119.7 × 43.4 mm (4 × 4 3/4 × 1 3/4 inches)
(w/h/d) incl. projecting parts and controls

MASS
Approx. 295g (10.5 oz)
Approx. 395g (14.0 oz) incl.batteries, a cassette and headphones

Supplied accessories
Stereo headphones (1) / Belt clip (1) / Hand strap (1) / Strap loop (1)

Design and specifications are subject to change without notice.

RADIO CASSETTE PLAYER

MICROFILM

SONY®

TABLE OF CONTENTS

1. SERVICE NOTE 3

2. GENERAL 4

3. DISASSEMBLY
3-1. COVER 5
3-2. DISPLAY BOARD 5
3-3. CASSETTE LID ASSEMBLY 5
3-4. CHASSIS ASSEMBLY 6
3-5. MAIN BOARD AND MECHANISM DECK 6

4. ADJUSTMENTS
4-1. MECHANICAL ADJUSTMENTS 7
4-2. ELECTRICAL ADJUSTMENTS 7

5. DIAGRAMS
5-1. BLOCK DIAGRAM 11
5-2. PRINTED WIRING BOARD 14
5-3. SCHEMATIC DIAGRAM - MAIN SECTION - 17
5-4. SCHEMATIC DIAGRAM - DISPLAY SECTION - 22

6. EXPLODED VIEWS
6-1. CASSETTE LID AND DIAPLAY BOARD SECTION 27
6-2. REAR CABINET AND MAIN BOARD SECTION 28
6-3. MECHANISM SECTION 39

7. ELECTRICAL PARTS LIST 30

Notes on chip component replacement
- Never reuse a disconnected chip compornent.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

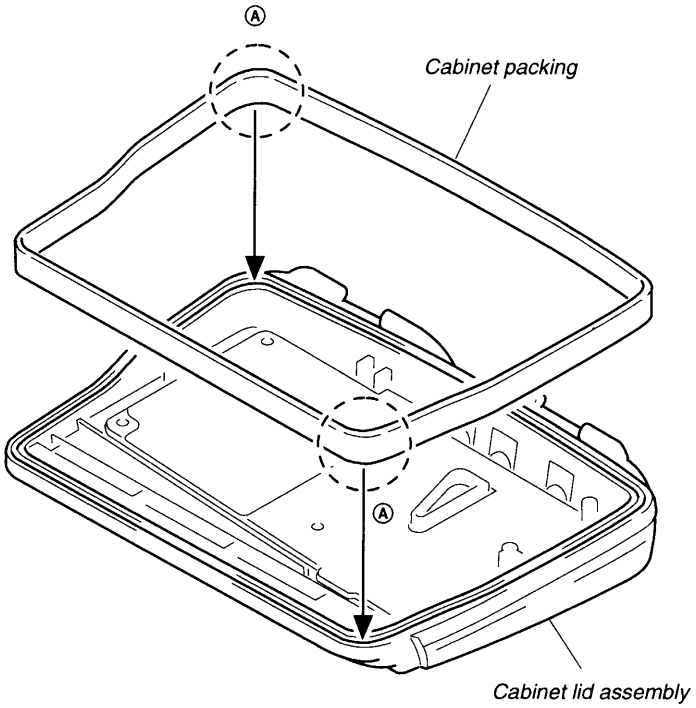
Flexible Circuit Board Repairing
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SECTION 1
SERVICE NOTE

WATERPROOFED SECTION

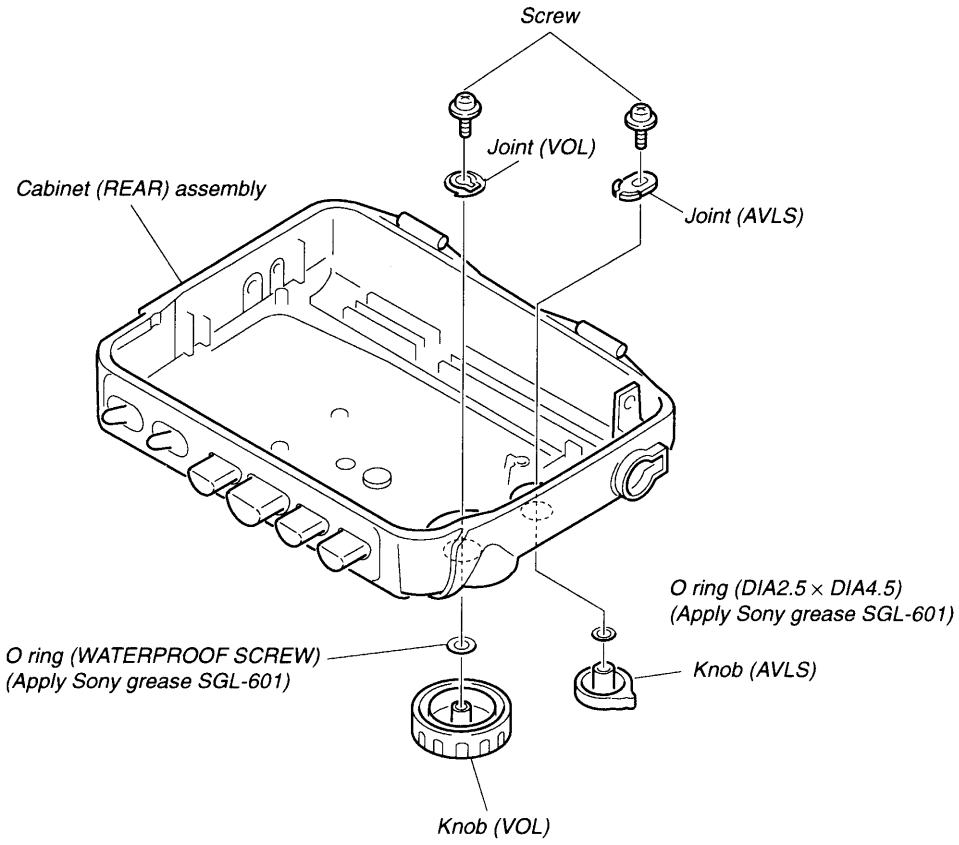
NOTE : In case the parts in the figure are removed for repair, treat them to protect from water drop following the instructions in the figure (spread grease, bond etc.)

- sony grease SGL-601 : 7-651-000-10

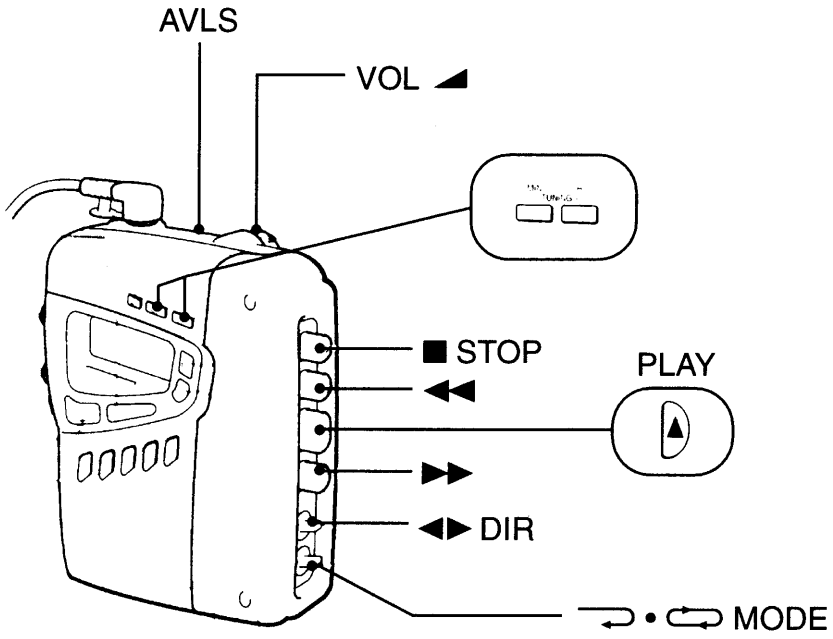


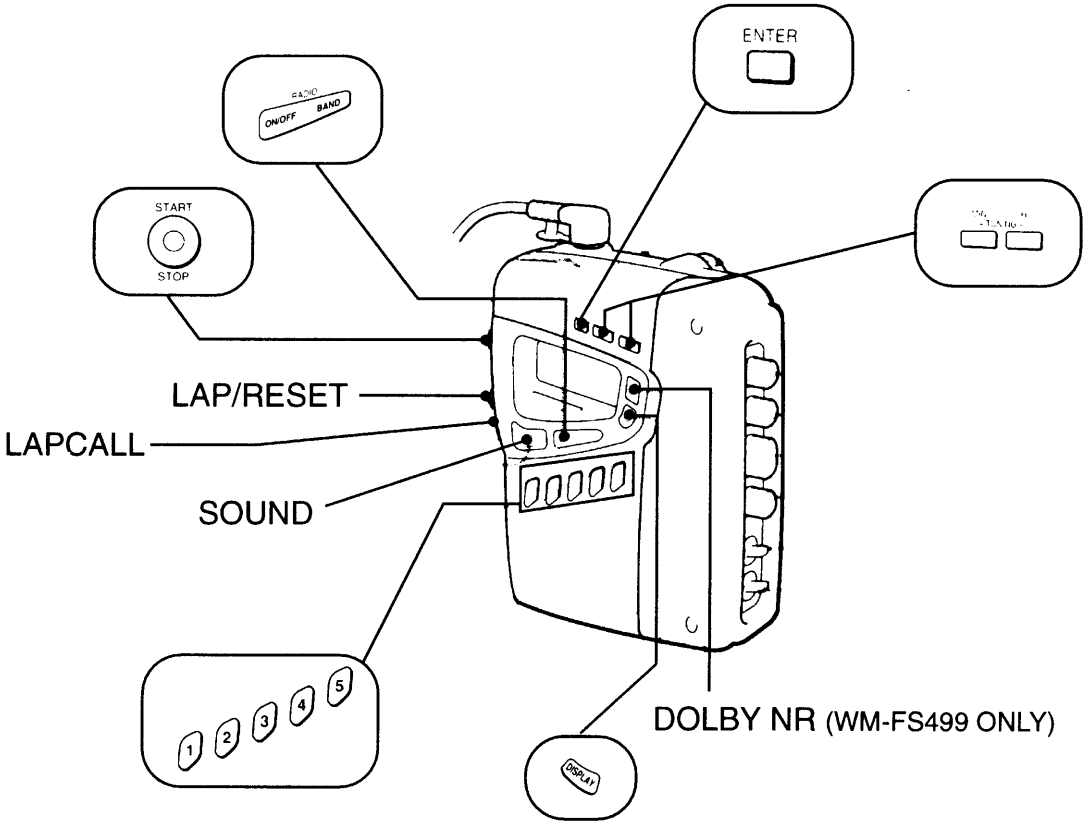
Set the Ⓐ positions to corner. then push down to grove.

Note : *Clean the attachment portion and shaded area with cloth.*



SECTION 2
GENERAL



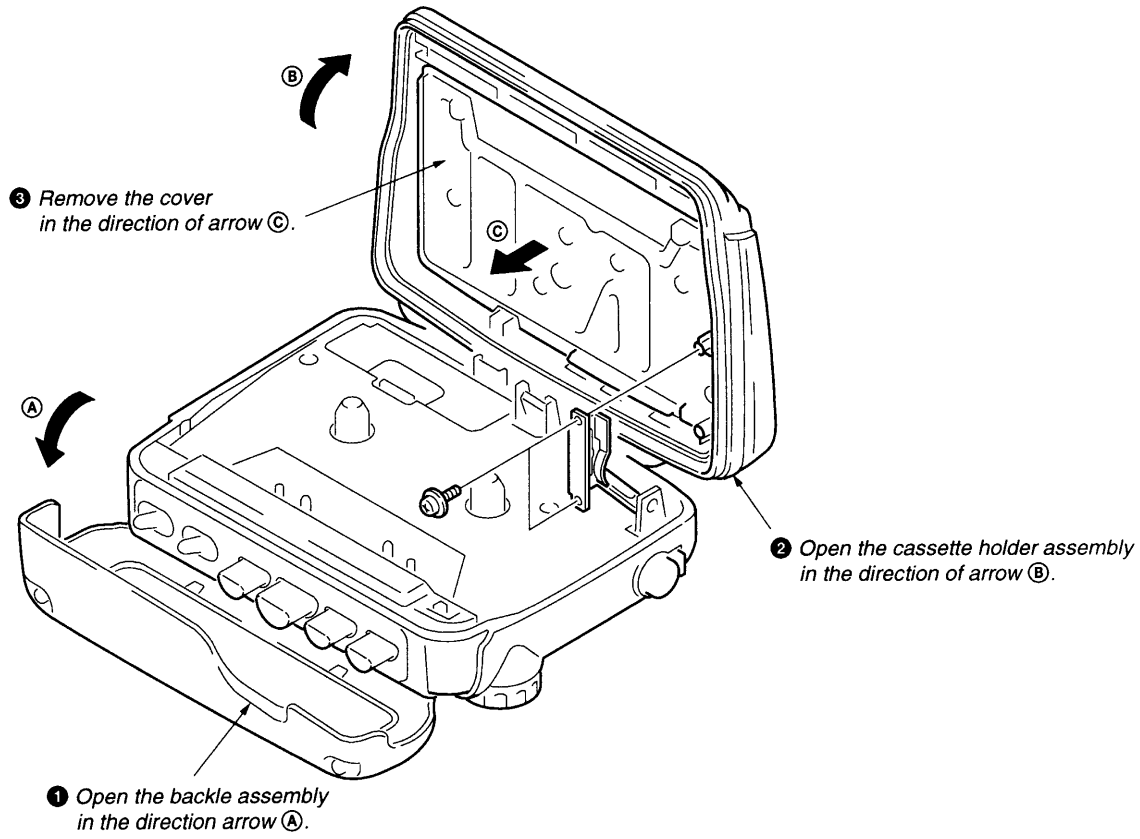


SECTION 3
DISASSEMBLY

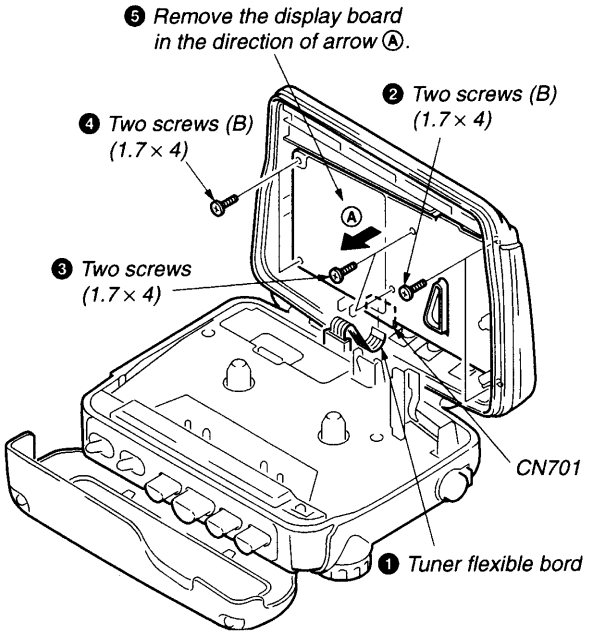
Note : Follow the disassembly procedure in the numerical order given.

SET → COVER ➡ DISPLAY BOARD ➡ CASSETTE HOLDER ASSEMBLY
SET → CHASSIS ASSEMBLY ➡ MAIN BOARD AND MECHANISM DECK

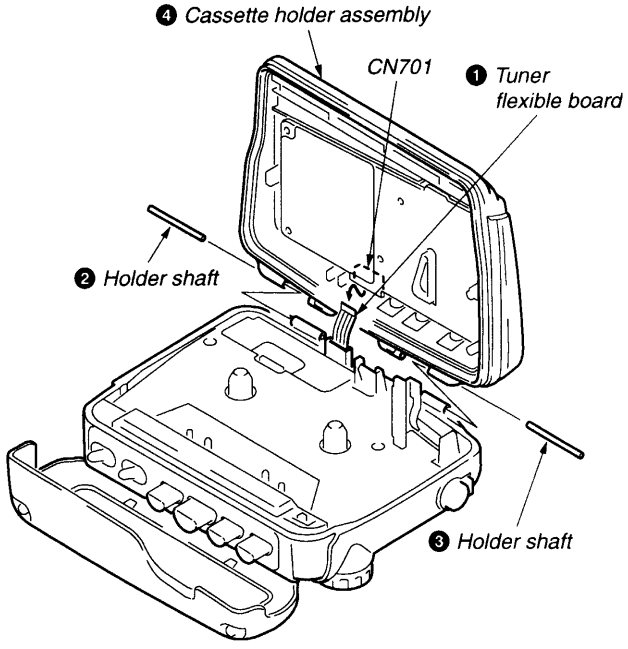
3-1. COVER


Ⓑ
❸ Remove the cover in the direction of arrow Ⓒ.
Ⓒ
Ⓐ
❷ Open the cassette holder assembly in the direction of arrow Ⓑ.
❶ Open the backle assembly in the direction arrow Ⓐ.

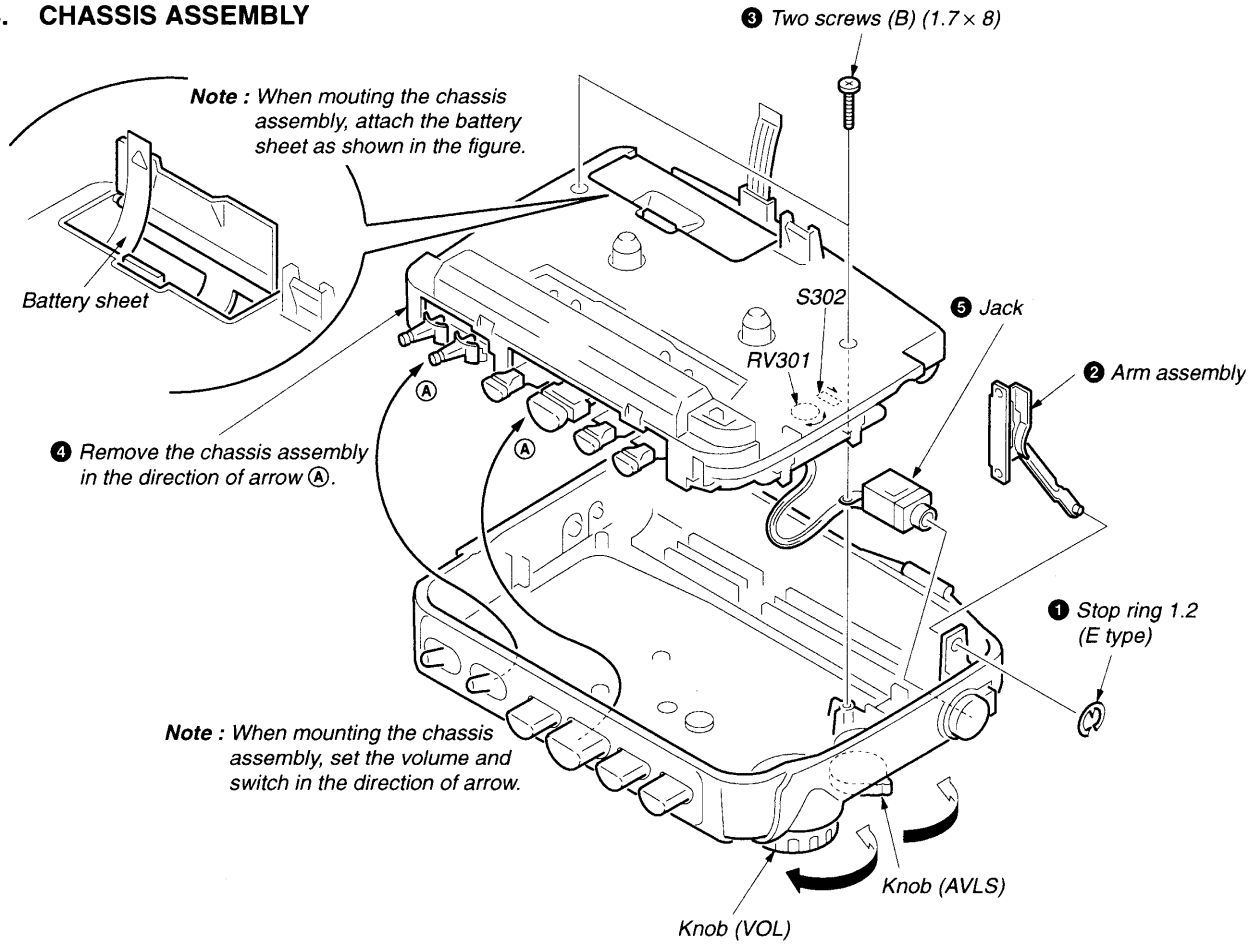
3-2. DISPLAY BOARD


❺ Remove the display board in the direction of arrow Ⓐ.
❷ Two screws (B) (1.7× 4)
❹ Two screws (B) (1.7× 4)
Ⓐ
❸ Two screws (1.7× 4)
CN701
❶ Tuner flexible bord

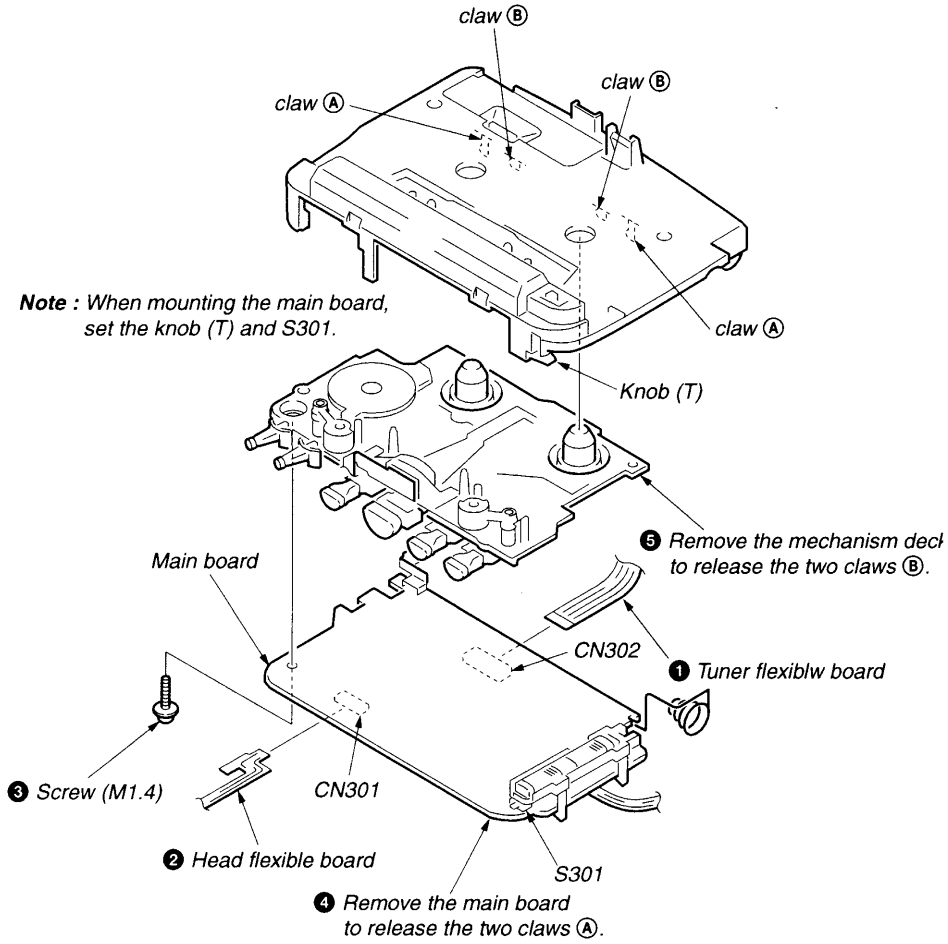
3-3. CASSETTE HOLDER ASSEMBLY



3-4. CHASSIS ASSEMBLY


❸ Two screws (B) (1.7× 8)
Note : When mouting the chassis assembly, attach the battery sheet as shown in the figure.
Battery sheet
S302
RV301
❺ Jack
❷ Arm assembly
Ⓐ
Ⓐ
❹ Remove the chassis assembly in the direction of arrow Ⓐ.
❶ Stop ring 1.2 (E type)
Note : When mounting the chassis assembly, set the volume and switch in the direction of arrow.
Knob (AVLS)
Knob (VOL)

3-5. MAIN BOARD AND MECHANISM DECK


claw Ⓑ
claw Ⓑ
claw Ⓐ
Note : When mounting the main board, set the knob (T) and S301.
claw Ⓐ
Knob (T)
❺ Remove the mechanism deck to release the two claws Ⓑ.
Main board
CN302
❶ Tuner flexiblw board
❸ Screw (M1.4)
CN301
❷ Head flexible board
S301
❹ Remove the main board to release the two claws Ⓐ.

SECTION 4
ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   playback head　　pinch roller
   capstan　　rubber belt
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5 V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	20 - 42 g • cm (0.28 -0.58 oz• inch)
FWD back tension		less than 2 g • cm (less than 0.03 oz• inch)
REV	CQ-102RC	20 - 42 g • cm (0.28 -0.58 oz• inch)
REV back tension		less than 2 g • cm (less than 0.03 oz• inch)
FF, REW	CQ-201B	more than 60 g • cm (more than 0.83 oz• inch)

4-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

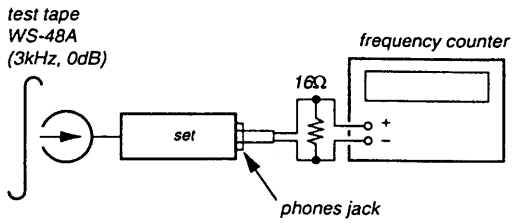
- Supplied voltage : 2.5V ± 0.1V
- Switch and control position
  TAPE switch : NORMAL
  VOLUME control : MAX
  ALVS switch : OFF
  DOLBY switch : OFF
  SOUND switch : NORMAL

Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment

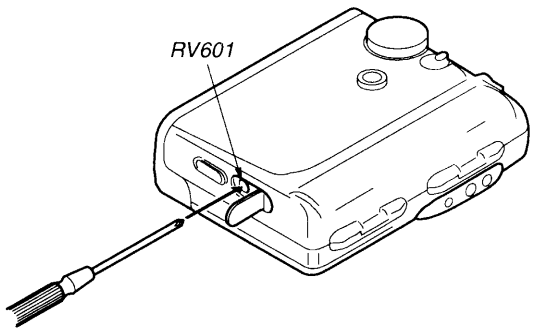
Tape Speed Adjustment

Procedure :



1. Playback WS-48A (tape center part) in the REV state and adjust RV601 so that the frequency counter reading becomes 3,000Hz ± 10Hz.
2. Playback WS-48A (tape center) in the FWD state.
   Check that frequency counter reading is within 1.5% of the reading of step 1.

Adjustment Location :



TUNER SECTION

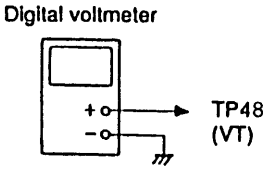
FM SECTION

setting :

RADIO switch : ON
BAND switch : FM
FM SENS switch : DX (US, Canadian model)
FM MODE switch : STEREO

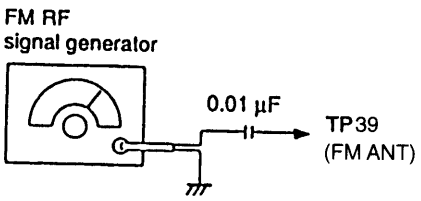
(EXCEPT US, Canadian model)

FM TUNING VOLTAGE ADJUSTMENT

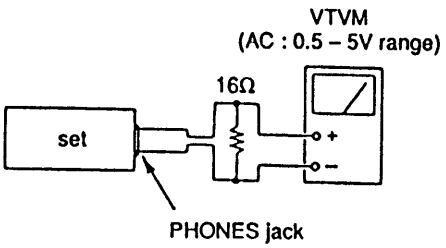


FM TUNING VOLTAGE ADJUSTMENT
Adjust for a 1.50 ± 0.03 Vdc reading on Digital voltmeter
L6
87.5 MHz

FM TRACKING ADJUSTMENT



Modulation : 1kHz, 75kHz
Output level : as low as possible.



- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

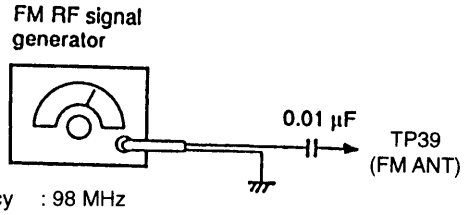
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5	CT1
87.5 MHZ	108 MHz

VCO ADJUSTMENT

setting :

RADIO switch : ON
BAND switch : FM
FM SENS switch : DX (US, Canadian model)
FM MODE switch : STEREO

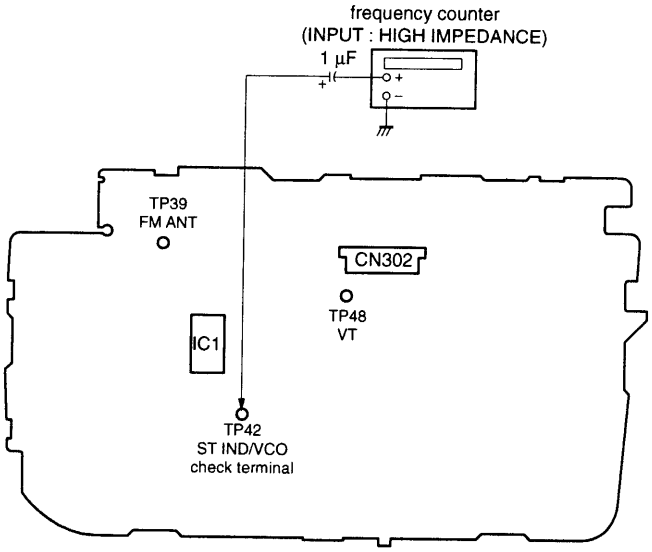
(EXCEPT US, Canadian model)



Carrier frequency : 98 MHz
Modulation : no modulation
Output level : 65 dBµV (1778 µV)

1. Connect the frequency counter to TP39 and GND as shown the figure below.
2. Turn the set to 98 MHz.
3. Adjust RV1 for 76 kHz ± 50 Hz reading on frequency counter.

[MAIN BOARD] (SIDE B)

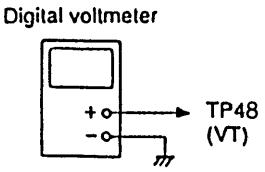


AM SECTION

setting :

RADIO switch : ON
BAND switch :AM

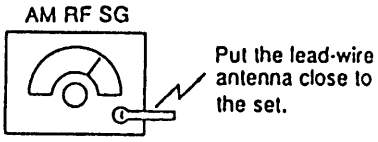
AM TUNING VOLTAGE ADJUSTMENT



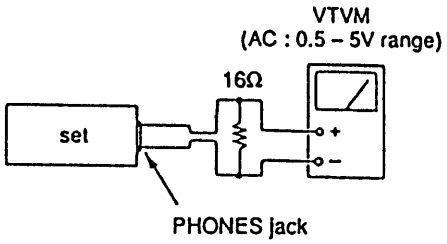
AM TUNING VOLTAGE ADJUSTMENT
Adjust for a 1.50 ± 0.03 Vdc reading on Digital voltmeter
L8
530 (531) kHz

( ) : EXCEPT US, Canadian model

AM IF ADJUSTMENT, AM TRACKING ADJUSTMENT



Modulation : 400Hz 30%
Output level : as low as possible.



- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

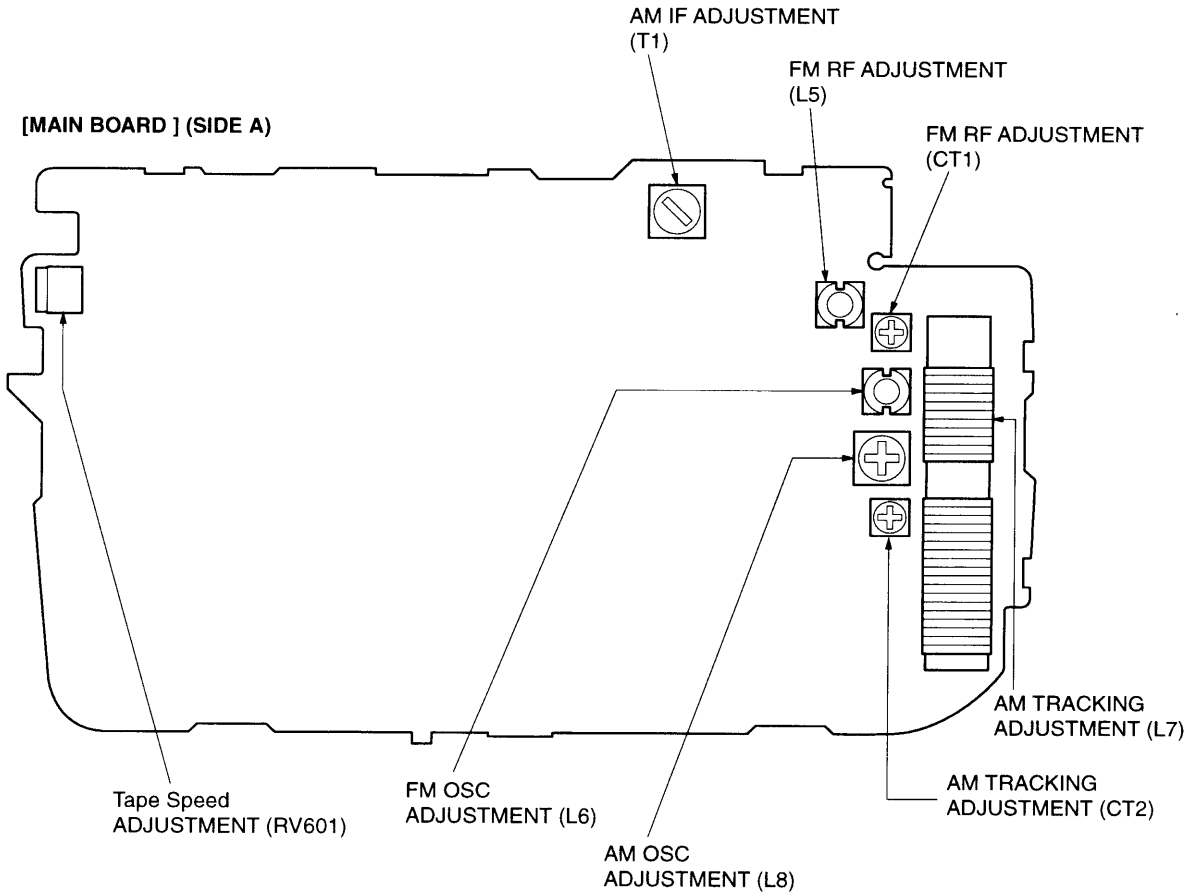
AM IF ADJUSTMENT
Adjust for a maximum reading on VTVM.
T1
1000 (999) kHz

( ) : EXCEPT US, Canadian model

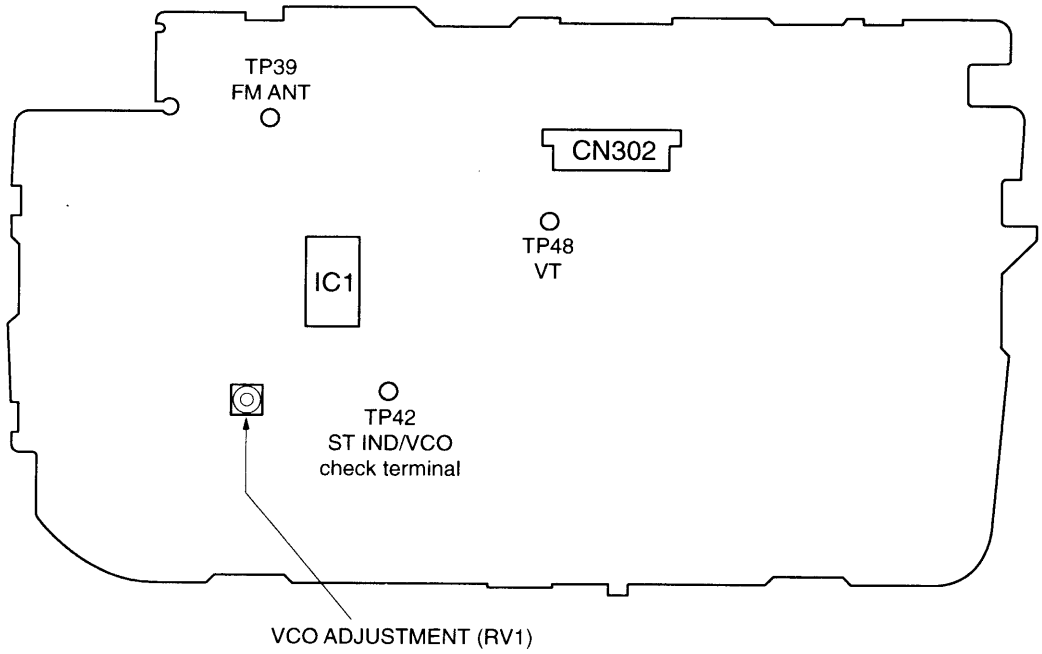
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7	CT2
620 (621) kHz	1400 (1395) kHz

( ) : EXCEPT US, Canadian model

Adjustment Part Location Diagram :

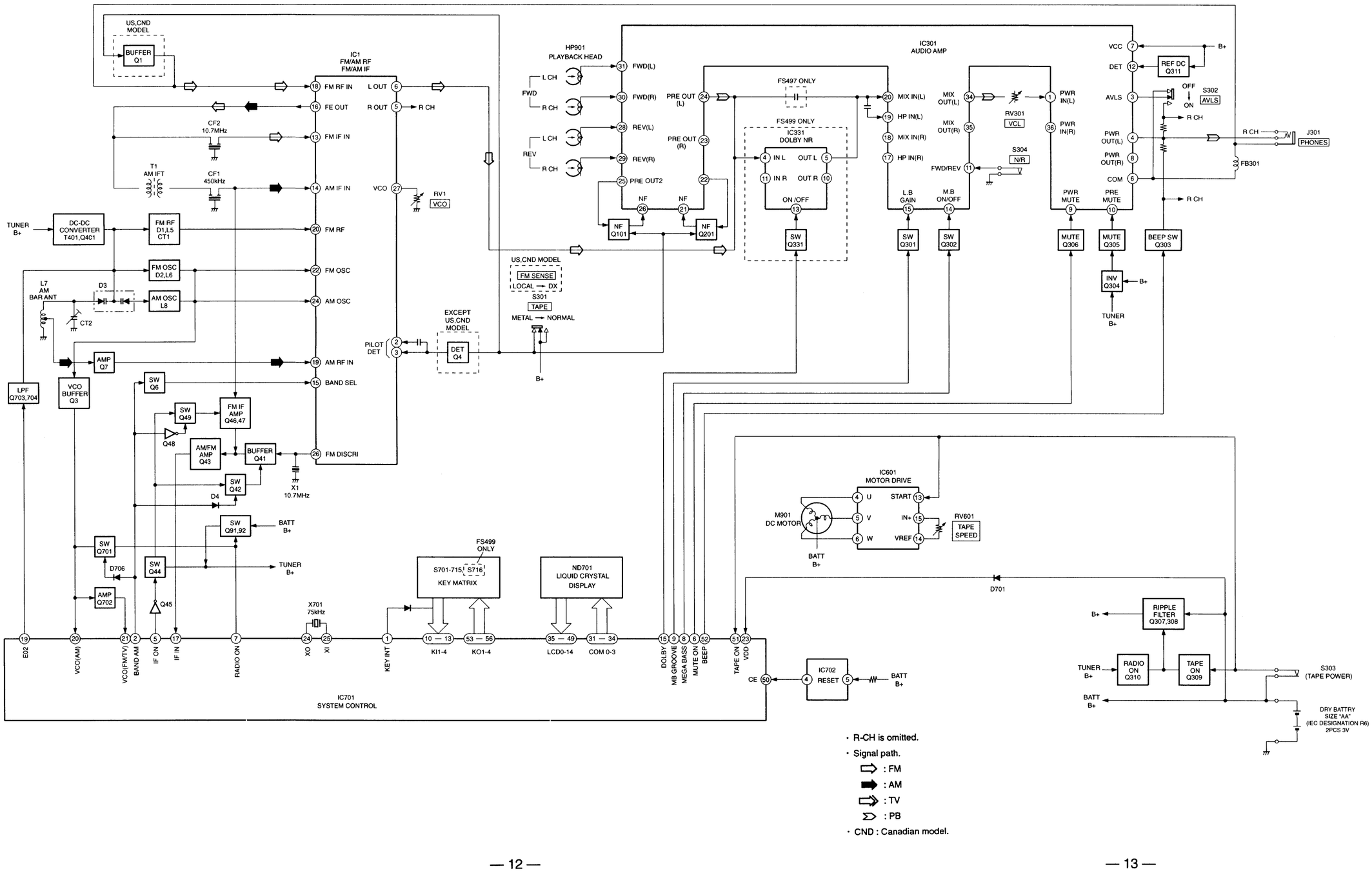

[MAIN BOARD] (SIDE A)
AM IF ADJUSTMENT (T1)
FM RF ADJUSTMENT (L5)
FM RF ADJUSTMENT (CT1)
AM TRACKING ADJUSTMENT (L7)
AM TRACKING ADJUSTMENT (CT2)
Tape Speed ADJUSTMENT (RV601)
FM OSC ADJUSTMENT (L6)
AM OSC ADJUSTMENT (L8)

[MAIN BOARD] (SIDE B)



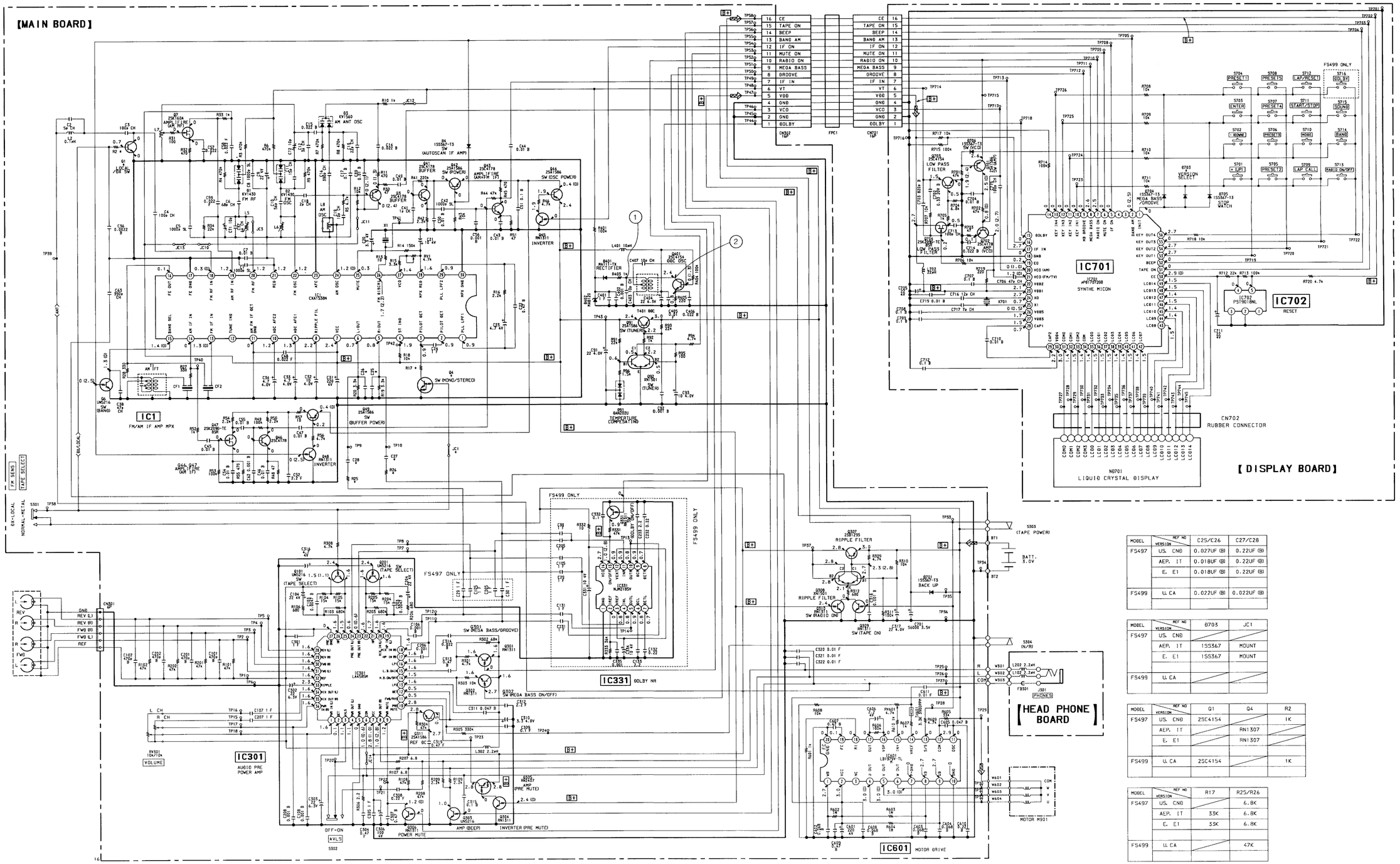
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



- R-CH is omitted.
- Signal path.
  - ⇨ : FM
  - ➡ : AM
  - ⇨ : TV
  - ⇨ : PB
- CND : Canadian model.

5-2. SCHEMATIC DIAGRAM



NOTE

- All capacitors are in μF unless otherwise noted. pF: μF
  50WV or less are not indicated except for electrolytics and tantaloums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

- B+ :B+ Line.
- ▭ :adjustment for repair.
- Voltages and waveforms are dc with respect to ground
  under no-signal conditions.
  under no-signal (detuned) conditions.
  no mark: FM
  ( ): AM
  * :can not be measured.

- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Power voltage is dc 3.0V and fed with regulated dc power supply from battery terminal.
- Total current is measured with no cassette installed.

- Signal path.
  ⇨ :FM
  ⇨ :PB (DECK A)

- Abbreviation
  CND : model
  IT : Italian model
  E1 : A part of "E" model, that shows no manufacturing country on the CABINET (REAR).

MODEL	REF NO / VERSION	C25/C26	C27/C28
FS497	US, CND	0.027UF (B)	0.22UF (B)
	AEP, IT	0.018UF (B)	0.22UF (B)
	E, E1	0.018UF (B)	0.22UF (B)
FS499	U, CA	0.022UF (B)	0.022UF (B)

MODEL	REF NO / VERSION	D703	JC1
FS497	US, CND		
	AEP, IT	1SS367	MOUNT
	E, E1	1SS367	MOUNT
FS499	U, CA		

MODEL	REF NO / VERSION	Q1	Q4	R2
FS497	US, CND	2SC4154		1K
	AEP, IT		RN1307	
	E, E1		RN1307	
FS499	U, CA	2SC4154		1K

MODEL	REF NO / VERSION	R17	R25/R26
FS497	US, CND		6.8K
	AEP, IT	33K	6.8K
	E, E1	33K	6.8K
FS499	U, CA		47K

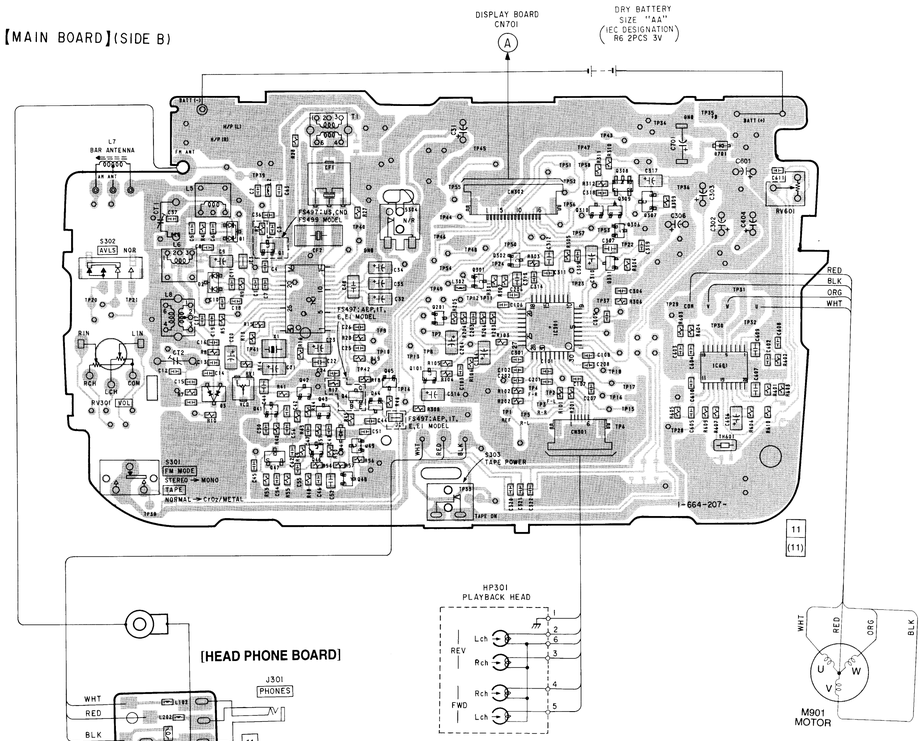
- **Waveforms**

① MODE : FM/AM
10V/div
0.2μsec/div

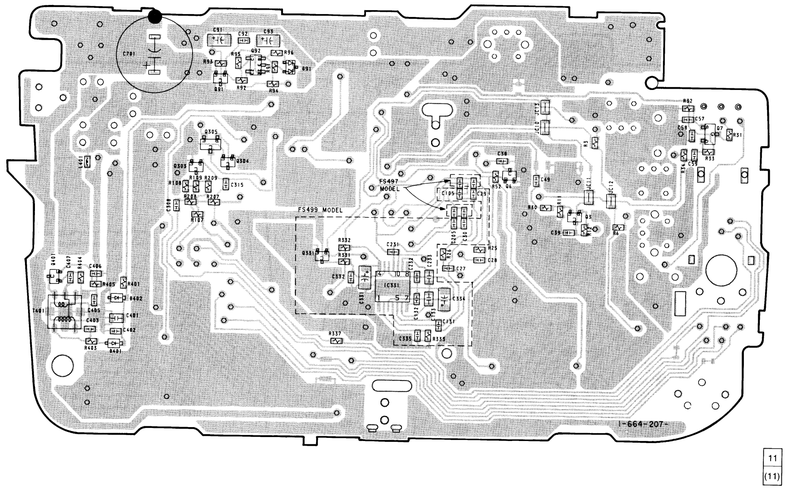
② MODE : FM/AM
1V/div
0.2μsec/div

5-3. PRINTED WIRING BOARD — MAIN SECTION —

【MAIN BOARD】(SIDE B)



【MAIN BOARD】(SIDE A)



- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D1	C-3	Q46	D-3
D2	C-3	Q47	E-3
D3	D-3	Q48	E-4
D4	D-4	Q49	D-4
D91	B-12	Q91	B-11
D301	E-6	Q92	B-12
D302	E-6	Q101	D-4
D303	E-6	Q201	C-5
D401	D-10	Q301	C-5
D402	D-10	Q302	C-5
D701	D-7	Q303	C-11
IC1	C-3	Q304	C-11
IC301	C-6	Q305	C-11
IC331	D-13	Q306	C-6
IC601	D-7	Q307	B-6
Q1	C-3	Q308	B-6
Q3	C-14	Q309	B-6
Q4	D-4	Q310	B-6
Q6	C-14	Q311	C-6
Q7	C-16	Q331	D-12
		Q401	D-10
Q41	D-3		
Q42	D-3		
Q43	D-4		
Q44	D-4		
Q45	D-4		

Note :

- ⊷ : Parts extracted from the component side.
- △ : Internal component.
- ═ : Pattern from the side which enable seeing.

- Abbreviation
  CND : model
  IT : Italian model
  E1 : A part of "E" model, that shows no manufacturing country on the CABINET (REAR).

5-4. PRINTED WIRING BOARD — DISPLAY SECTION —

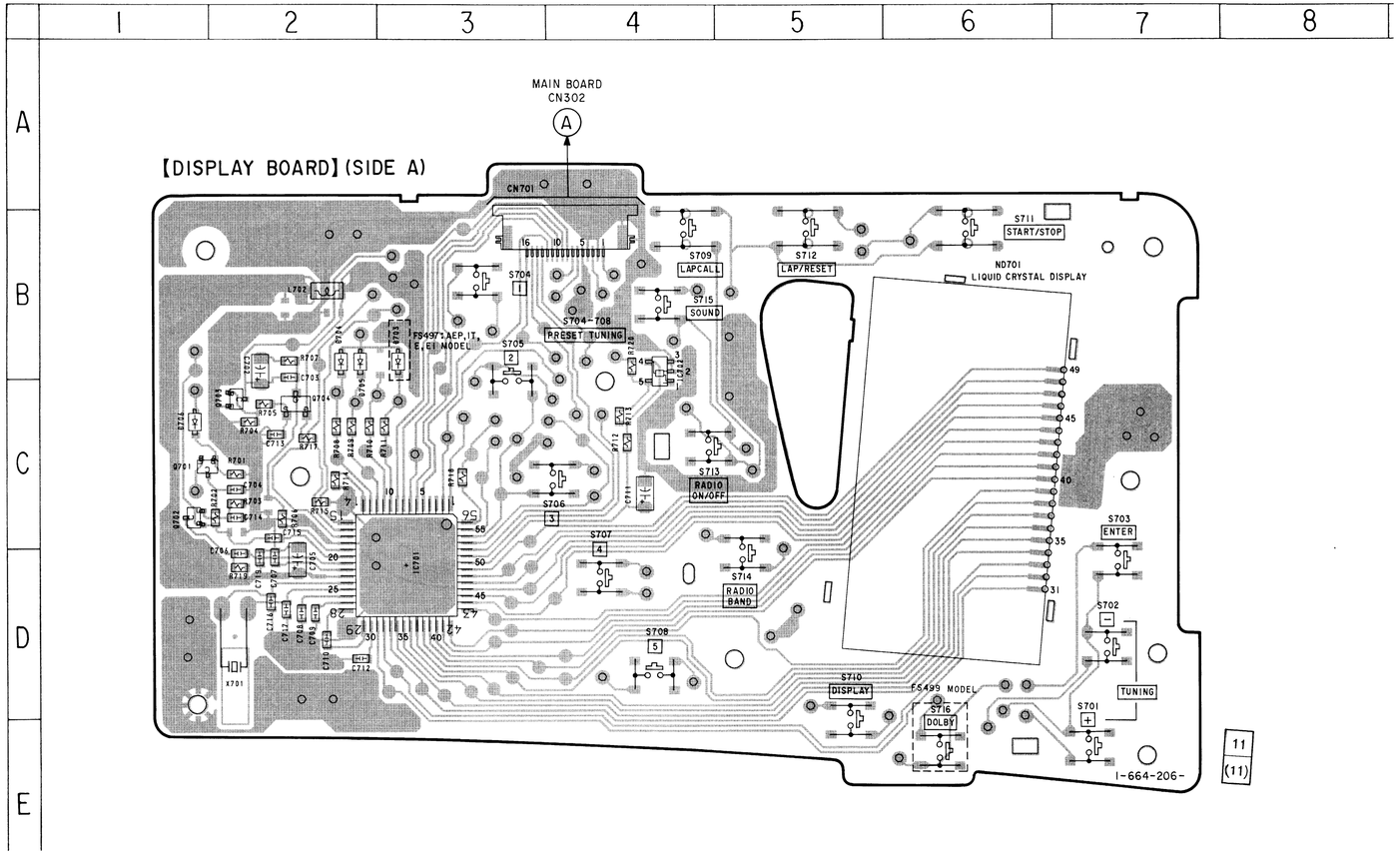
- **Semiconductor Location**

Ref. No.	Location
D706	C-1
D704	B-2
D705	B-2
D703	B-3
Q701	C-2
Q702	C-1
Q703	C-2
Q704	C-2
IC701	D-3
IC702	B-4

Note :

- ▪▪▪ : Parts extracted from the component side.
- △ : Internal component.
- ▬▬ : Pattern from the side which enable seeing.

- Abbreviation
  CND : model
  IT : Italian model
  EI : A part of "E" model, that shows no manufacturing country on the CABINET (REAR).

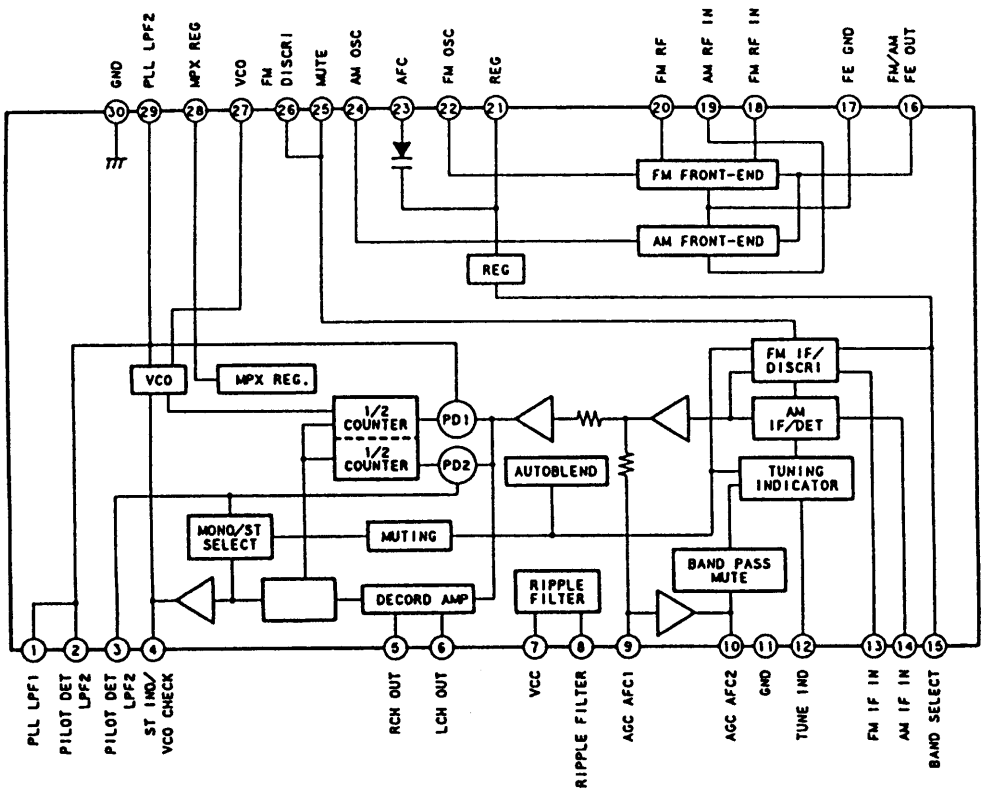


- **IC PIN FUNCTION**
- **IC701 μPD17072GB-540-1A7 (ND DRIVE, SYSTEM CONTROL)**

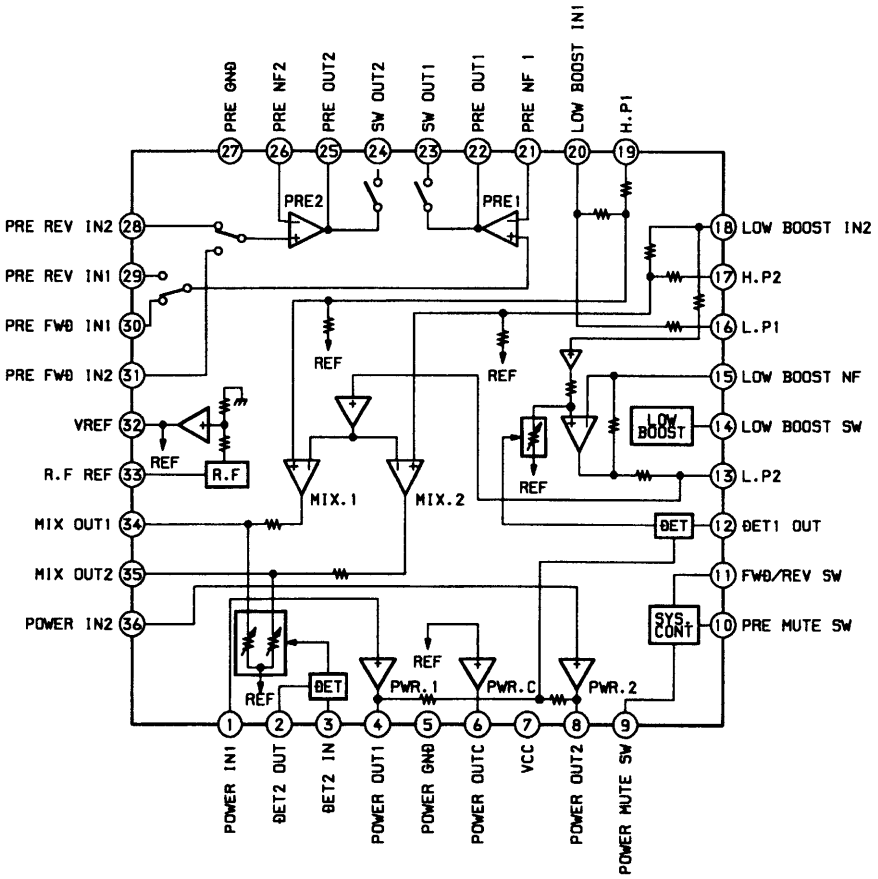
Pin No.	Pin name	I/O	Description
1	INIT	O	Key initial terminal.
2	BAND AM	O	BAND AM ON selection output.
3		–	Not used (Open).
4		–	Not used (Open).
5	IF ON	O	IF ON/OFF control.
6	MUTE	O	Mute signal output.
7	RADIO ON	O	Radio power ON/OFF control.
8	MEGA BASS	O	MEGA BASS ON/OFF output.
9		O	GROOVE/MEGA BASS control.
10	KEY IN 1	I	Key input.
11	KEY IN 2	I	Key input.
12	KEY IN 3	I	Key input.
13	KEY IN 4	I	Key input.
14			Not used (pull down).
15	DOLBY	O	Dolby ON/OFF control.
16	MODEL	I	Model select ON/OFF terminal.
17	IF IN	I	IF signal input.
18	GND	–	Ground.
19	EO	O	PLL error output.
20	VCO (AM)	I	AM VCO input.
21	VCO (FM/TV)	I	FM VCO input.
22	V_{DD2}	–	Power supply terminal (+3V).
23	V_{DD1}	–	Power supply terminal (+3V).
24	X0	–	System clock oscillator (75kHz).
25	X1	–	System clock oscillator (75kHz).
26	V_{DD5}	–	Power supply (+3V).
27	V_{DD3}	–	Power supply (+3V).
28	CAP 1	–	Pins connecting capacitors for doubler circuits gemerating the ND drive voltage.
29	CAP 2	–	Pins connecting capacitors for doubler circuits gemerating the ND drive voltage.
30	V_{DD4}	–	Power supply (+3V).
31 – 34	COM 0 – 3	O	ND common output.
35 – 49	LCD 0 – 14	O	ND segment drive output.
50	CE	I	The internal reset circuit functions when low becomes high.
51	TAPE ON	I	TAPE ON signal input.
52	BEEP	O	BEEP signal output.
53	KEY OUT 1	O	Key scan output.
54	KEY OUT 2	O	Key scan output.
55	KEY OUT 3	O	Key scan output.
56	KEY OUT 4	O	Key scan output.

• **IC Block Diagrams**

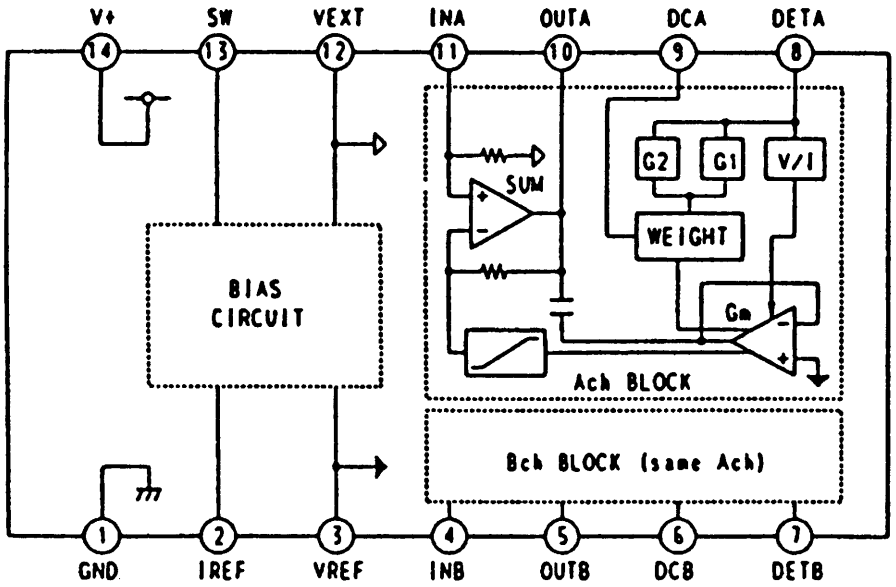
IC1 CX1538N



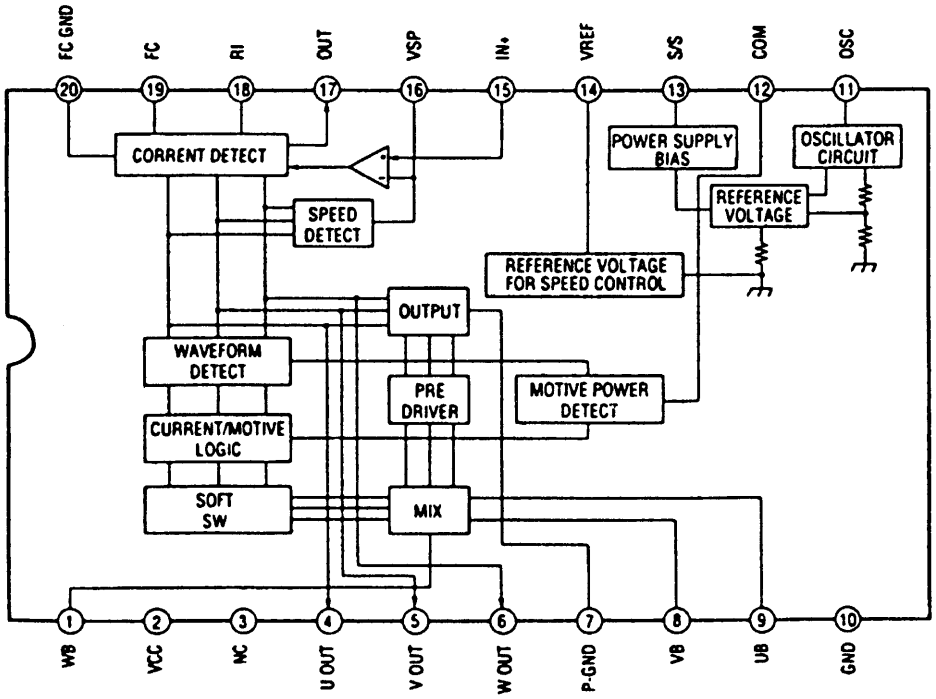
IC301 LA4585M-TLM



IC331 NJM2185VT-TE2



IC601 LB1979V-TLM

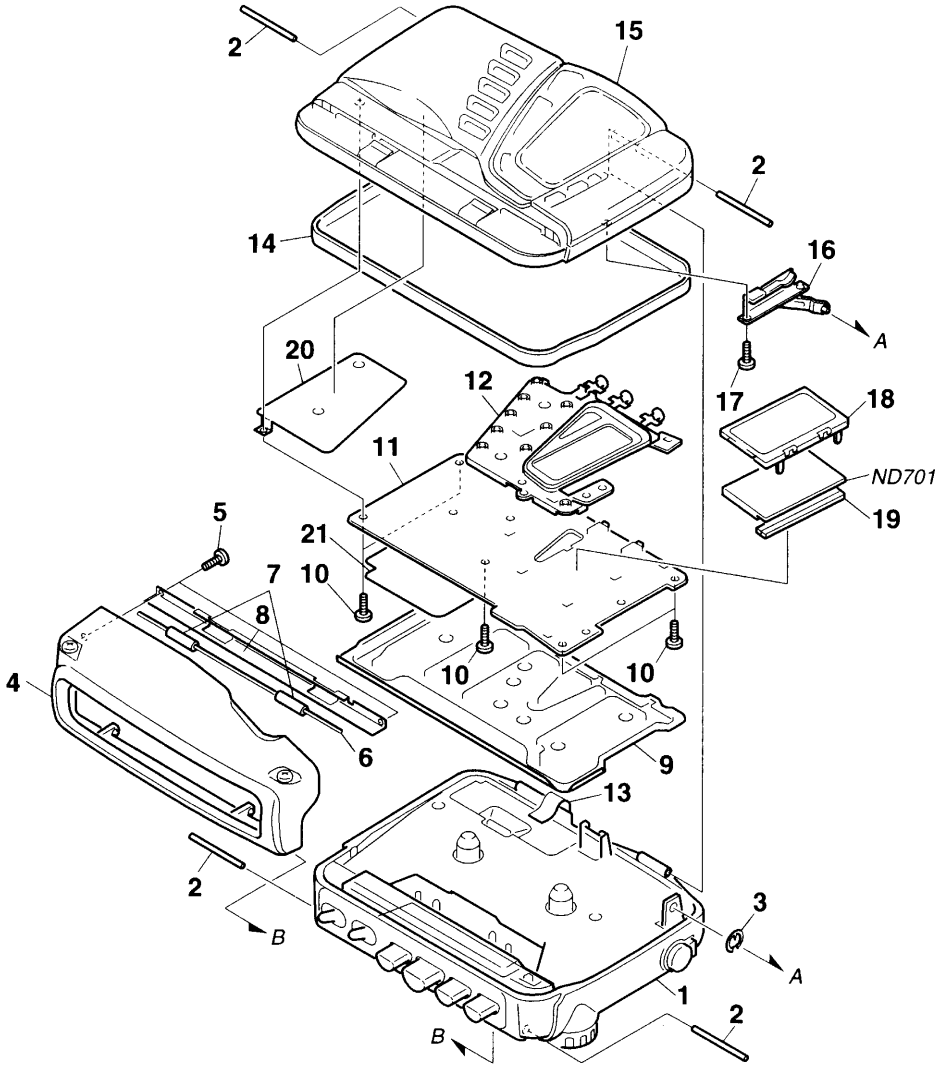


SECTION 6
EXPLODED VIEWS

Note:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : model
  IT : Italian model
  E1 : A part of "E" model, that shows no manufacturing country on the CABINET (REAR).

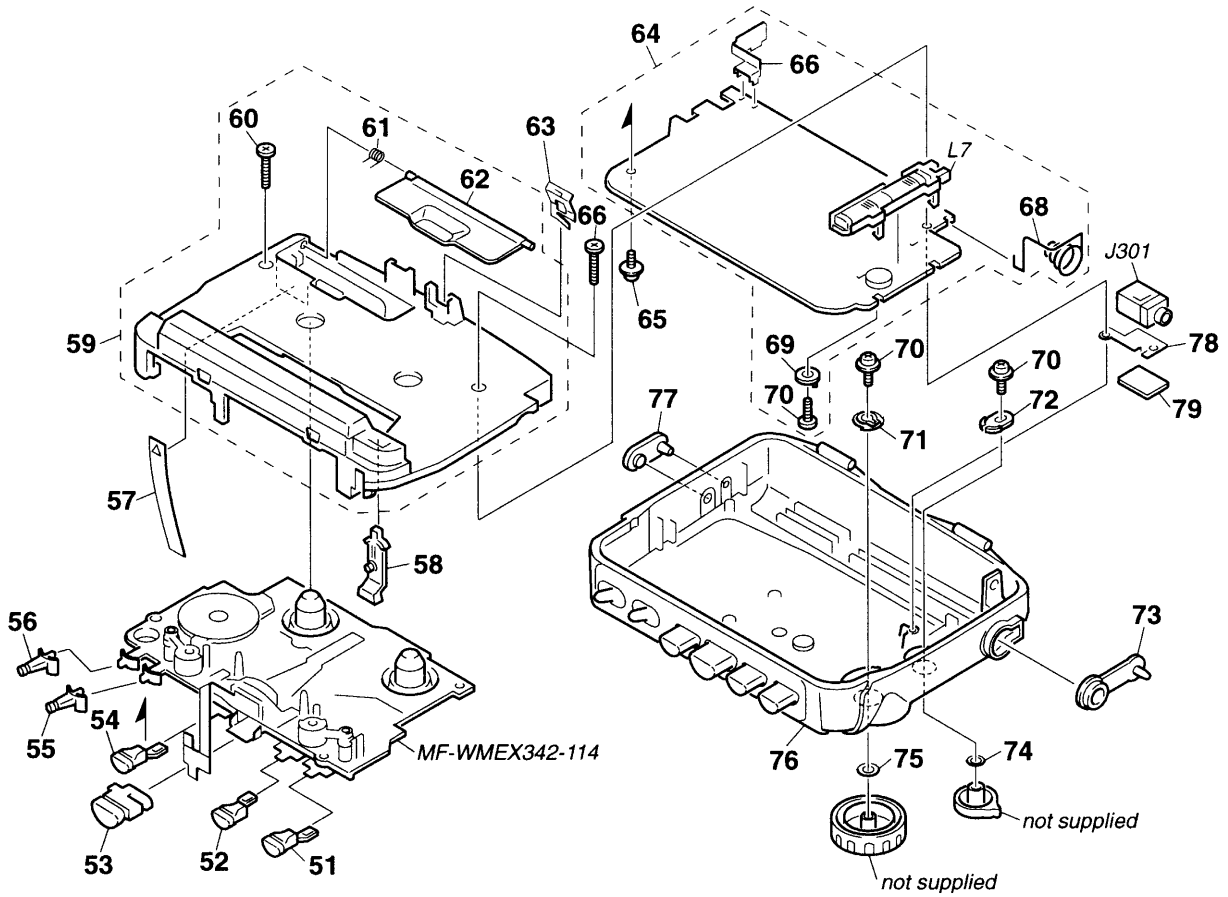
6-1. CASSETTE LID AND DISPLAY BOARD SECTION



Ref. No.	Part No.	Description	Remarks
1	A-3010-514-A	CABINET (REAR) ASSY (FS499:US)	
1	A-3010-518-A	CABINET (REAR) ASSY (FS497:US,CND,E)	
1	A-3010-521-A	CABINET (REAR) ASSY (FS497:AEP,IT)	
1	A-3010-522-A	CABINET (REAR) ASSY (FS497:E1)	
1	A-3050-373-A	CABINET (REAR) ASSY (FS499:CND)	
2	3-009-868-01	SHAFT (HOLDER)	
3	7-624-101-04	STOP RING 1.2 (E TYPE)	
4	3-008-986-01	BUCKLE	
5	3-318-203-61	SCREW (B1.7X4), TAPPING	
6	3-009-869-01	SHAFT (ROLLER)	
7	3-009-870-01	ROLLER (BUCKLE)	
8	3-008-999-01	RETAINER (ROLLER SHAFT)	
9	3-008-985-01	COVER	
10	3-318-203-62	SCREW (B1.7X4), TAPPING	
11	A-3016-947-A	DISPLAY BOARD, COMPLETE (FS499:US)	
11	A-3016-949-A	DISPLAY BOARD, COMPLETE (FS497:US,CND)	
11	A-3016-950-A	DISPLAY BOARD, COMPLETE (FS497:AEP,IT)	
11	A-3016-951-A	DISPLAY BOARD, COMPLETE (FS497:E,E1)	

Ref. No.	Part No.	Description	Remarks
11	A-3016-958-A	DISPLAY BOARD, COMPLETE (FS499:CND)	
* 12	3-012-983-11	ESCUTCHEON (LCD) (FS497:E,E1)	
* 12	3-012-983-11	ESCUTCHEON (LCD) (FS497:US,CND,AEP,IT)	
* 12	3-012-983-01	ESCUTCHEON (LCD) (FS499:US)	
* 12	3-012-983-21	ESCUTCHEON (LCD) (FS499:CND)	
13	1-664-501-11	PC BOARD, FLEXIBLE (TUNER)	
14	3-922-849-11	PACKING, CABINET (FS497/FS499:US)	
14	3-922-849-21	PACKING, CABINET (FS499:CND)	
15	X-3373-626-1	HOLDER (CASSETTE) SUB ASSY (FS499:US)	
15	X-3373-771-1	HOLDER (CASSETTE) SUB ASSY (FS497)	
15	X-3373-886-1	HOLDER (CASSETTE) SUB ASSY (FS499:CND)	
16	X-3369-989-1	ARM ASSY	
17	3-342-759-41	SCREW (B1.7X4), TAPPING	
* 18	3-008-998-01	CASE (LCD)	
19	3-017-616-01	CONDUCTIVE BOARD, CONNECTION	
20	3-016-133-01	PLATE, SHILD (B)	
21	3-016-132-01	PLATE, SHIELD (A)	
ND701	1-801-538-21	DISPLAY PANEL, LIQUID CRYSTAL	

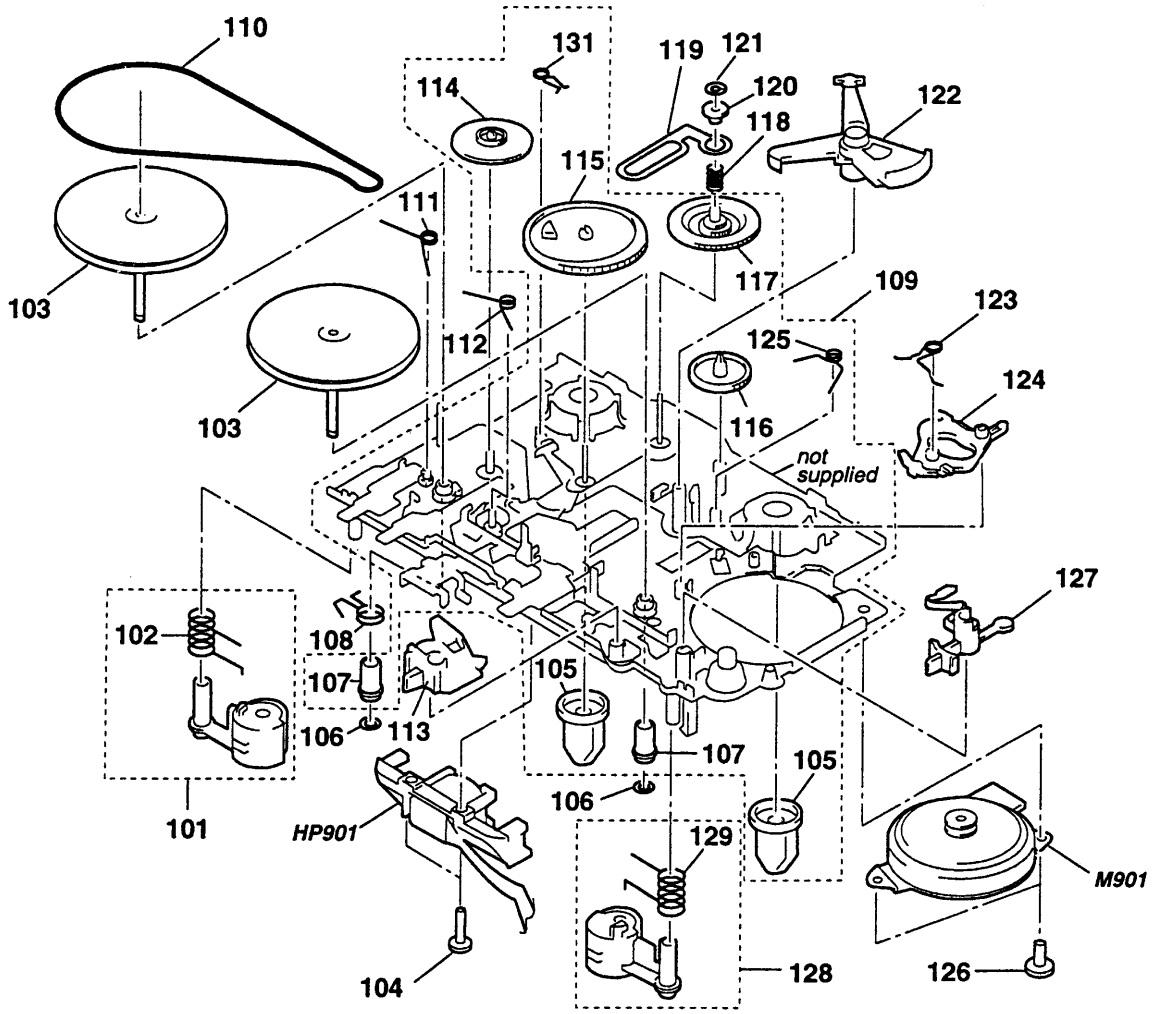
6-2. REAR CABINET AND MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remarks
51	3-921-860-01	BUTTON (STOP)	
52	3-921-861-01	BUTTON (FF)	
53	3-921-859-01	BUTTON (PLAY)	
54	3-921-862-01	BUTTON (REW)	
55	3-921-863-01	KNOB (DIR)	
56	3-921-864-01	KNOB (MODE)	
57	3-922-445-01	SHEET, BATTERY	
58	3-921-879-01	KNOB (T) (FS497/FS499:US)	
58	3-921-879-11	KNOB (T) (FS499:CND)	
59	X-3373-763-1	CHASSIS SUB ASSY (FS497:US,CND,FS499)	
59	X-3373-764-1	CHASSIS SUB ASSY (FS497:AEP,IT,E,E1)	
60	3-318-203-31	SCREW (B1.7X8), TAPPING	
61	3-926-267-01	SPRING, TORSION	
62	3-921-875-11	LID, BATTERY CASE	
63	3-009-872-01	SPRING, CASSETTE RETAINER	
64	A-3016-944-A	MAIN BOARD, COMPLETE (FS499)	
64	A-3016-945-A	MAIN BOARD, COMPLETE (FS497:US,CND)	
64	A-3016-948-A	MAIN BOARD, COMPLETE (FS497:AEP,IT,E,E1)	
65	3-921-955-01	SCREW (M1.4), TOOTH (WH)	

Ref. No.	Part No.	Description	Remarks
66	3-921-878-01	TERMINAL BOARD, BATTERY	
68	3-921-877-01	SPRING, BATTERY COIL	
* 69	3-921-876-01	JOINT (B) (FS497:US,CND)	
70	3-318-201-01	SCREW (B) (1.4X3), TAPPING	
70	3-381-629-01	SCREW, (B) (1.4X3), TAPPING (FS497:US,CND)	
71	3-921-868-01	JOINT (VOL)	
72	3-921-869-01	JOINT (AVLS)	
73	3-386-371-01	PACKING, HP JACK	
74	3-326-560-02	RING (DIA. 2.5XDIA. 4.5), O	
75	3-012-927-01	RING, O	
76	X-3373-511-1	CABINET (REAR) SUB ASSY (FS497:E1)	
76	X-3373-627-1	CABINET (REAR) SUB ASSY (FS499:US)	
76	X-3373-629-1	CABINET (REAR) SUB ASSY (FS497:AEP,IT)	
76	X-3373-630-1	CABINET (REAR) SUB ASSY (FS497:US,CND,E)	
76	X-3373-887-1	CABINET (REAR) SUB ASSY (FS499:CND)	
77	3-922-447-01	PACKING, DC JACK	
78	3-009-874-01	TERMINAL BOARD (H/P-JACK)	
79	1-664-208-11	HEADPHONE BOARD	
J301	1-778-224-11	JACK (SMALL TYPE) (WATERPROOF) (PHONES)	
L7	1-501-917-11	ANTENNA, FERRITE-ROD	

6-3. MECHANISM SECTION (MT-WMEX342-114)



Ref. No.	Part No.	Description	Remarks
101	X-3369-749-1	PINCH LEVER (N) ASSY	
102	3-920-996-01	SPRING (PINCH N)	
103	X-3369-747-1	WHEEL ASSY, CAPSTAN	
104	3-704-197-71	SCREW (M1.4)	
105	3-921-042-01	GEAR (REEL)	
106	3-921-797-01	WASHER	
107	3-921-003-01	BEARING	
108	3-920-993-01	SPRING (NR)	
110	3-938-657-11	BELT	
111	3-920-992-01	SPRING (STOP)	
112	3-013-142-01	SPRING (FR-CP)	
113	3-921-053-01	LEVER, D SELECTION	
114	3-921-043-01	GEAR (D)	
115	X-3369-752-1	CLUTCH ASSY	
116	3-920-999-01	GEAR (A)	
117	3-921-050-01	GEAR (B)	

Ref. No.	Part No.	Description	Remarks
118	3-920-990-01	SPRING (UD), COMPRESSION	
119	3-921-335-01	WASHER, LEVER	
120	3-923-530-01	SLEEVE (M)	
121	3-728-091-01	WASHER, STOPPER	
122	3-921-052-01	LEVER (A), DETECTION	
123	3-920-994-11	SPRING (D SELECTION)	
124	3-921-022-01	LEVER (B), DETECTION	
125	3-938-628-01	SPRING (PLAY-CP)	
126	3-703-816-31	SCREW (M1.4), SPECIAL HEAD	
127	3-921-023-01	LEVER, M SELECTION	
128	X-3369-748-1	PINCH LEVER (R) ASSY	
129	3-920-997-01	SPRING (PINCH R)	
131	3-933-324-01	SPRING (FR LEVER)	
HP901	1-500-404-11	HEAD, MAGNETIC (PLAYBACK)	
M901	1-698-839-11	MOTOR	

DISPLAY

SECTION 7
ELECTRICAL PARTS LIST

Note:

When indicating parts by reference number, please include the board name.

- Abbreviation
  CND : model
  IT : Italian model
  E1 : A part of "E" model, that shows no manufacturing country on the CABINET (REAR).
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... , uPB... , µPB... , uPC... , µPC... , uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
	A-3016-947-A	DISPLAY BOARD, COMPLETE (FS499:US)			
		**********			
	A-3016-949-A	DISPLAY BOARD, COMPLETE (FS497:US,CND)			
		**********			
	A-3016-950-A	DISPLAY BOARD, COMPLETE (FS497:AEP,IT)			
		**********			
	A-3016-951-A	DISPLAY BOARD, COMPLETE (FS497:E,E1)			
		**********			
	A-3016-958-A	DISPLAY BOARD, COMPLETE (FS499:CND)			
		**********			
		< CAPACITOR >			
C702	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C703	1-164-473-11	CERAMIC CHIP	820PF	10%	50V
C704	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C705	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C706	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C707	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C708	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C709	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C710	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C711	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C712	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C713	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C714	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C715	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C716	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C717	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C719	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN701	1-766-584-11	CONNECTOR, FPC (ZIF) 16P			
		< DIODE >			
D703	8-719-049-09	DIODE 1SS367-T3SONY (FS497:AEP,IT,E,E1)			
D704	8-719049-09	DIODE 1SS367-T3SONY			
D705	8-719-049-09	DIODE 1SS367-T3SONY			
D706	8-719-049-09	DIODE 1SS367-T3SONY			
		< IC >			
IC701	8-759-455-07	IC UPD17072GB-540-1A7			
IC702	8-759-296-60	IC PST9018NL			
		< COIL >			
L702	1-410-946-31	INDUCTOR CHIP 22uH			
		< LIQUED CRYSTAL DISPLAY >			
ND701	1-801-538-21	DISPLAY PANEL, LIQUID CRYSTAL			

Ref. No.	Part No.	Description			Remarks
		< TRANSISTOR >			
Q701	8-729-230-60	TRANSISTOR 2SA1586-YG			
Q702	8-729-117-73	TRANSISTOR 2SC4178-F14			
Q703	8-729-602-21	TRANSISTOR 2SC4154-F			
Q704	8-729-220-93	TRANSISTOR 2SK209-G			
		< RESISTOR >			
R701	1-216-841-11	METAL CHIP	47K	5%	1/16W
R702	1-216-841-11	METAL CHIP	47K	5%	1/16W
R703	1-216-805-11	METAL CHIP	47	5%	1/16W
R704	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R705	1-216-821-11	METAL CHIP	1K	5%	1/16W
R706	1-216-833-11	METAL CHIP	10K	5%	1/16W
R707	1-216-833-11	METAL CHIP	10K	5%	1/16W
R708	1-216-833-11	METAL CHIP	10K	5%	1/16W
R709	1-216-833-11	METAL CHIP	10K	5%	1/16W
R710	1-216-833-11	METAL CHIP	10K	5%	1/16W
R711	1-216-833-11	METAL CHIP	10K	5%	1/16W
R712	1-216-837-11	METAL CHIP	22K	5%	1/16W
R713	1-216-845-11	METAL CHIP	100K	5%	1/16W
R714	1-216-845-11	METAL CHIP	100K	5%	1/16W
R715	1-216-845-11	METAL CHIP	100K	5%	1/16W
R717	1-216-833-11	METAL CHIP	10K	5%	1/16W
R718	1-216-833-11	METAL CHIP	10K	5%	1/16W
R719	1-216-813-11	METAL CHIP	220	5%	1/16W
R720	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		< SWITCH >			
S701	1-771-105-11	SWITCH, TACTILE (+ (UP))			
S702	1-771-105-11	SWITCH, TACTILE (- (DOWN))			
S703	1-771-105-11	SWITCH, TACTILE (ENTER)			
S704	1-771-105-11	SWITCH, TACTILE (PRESET1)			
S705	1-771-105-11	SWITCH, TACTILE (PRESET2)			
S706	1-771-105-11	SWITCH, TACTILE (PRESET3)			
S707	1-771-105-11	SWITCH, TACTILE (PRESET4)			
S708	1-771-105-11	SWITCH, TACTILE (PRESET5)			
S709	1-692-088-51	SWITCH, TACTILE (LAP CALL)			
S710	1-771-105-11	SWITCH, TACTILE (MODE)			
S711	1-692-088-51	SWITCH, TACTILE (START/STOP)			
S712	1-692-088-51	SWITCH, TACTILE (LAP/RESET)			
S713	1-771-105-11	SWITCH, TACTILE (RADIO ON/OFF)			
S714	1-771-105-11	SWITCH, TACTILE (BAND)			
S715	1-771-105-11	SWITCH, TACTILE (SOUND)			
S716	1-771-105-11	SWITCH, TACTILE (DOLBY) (FS499)			
		< VIBRATOR >			
X701	1-760-666-11	VIBRATOR, CRYSTAL (75kHz)			
**********					

Ref. No.	Part No.	Description			Remarks
*	1-664-208-11	HEADPHONE BOARD			
		**********			
	3-009-874-01	TERMINAL BOARD (H/P-JACK)			
		< FERRITE BEAD >			
FB301	1-414-235-11	INDUCTOR, FERRITE BEAD			
		< JACK >			
J301	1-778-224-11	JACK (SMALL TYPE)(WATERPROOF)(PHONES)			
		< COIL >			
L102	1-412-983-11	INDUCTOR	2.2uH		
L202	1-412-983-11	INDUCTOR	2.2uH		
**********					
	A-3016-944-A	MAIN BOARD, COMPLETE (FS499)			
		**********			
	A-3016-945-A	MAIN BOARD, COMPLETE (FS497:US,CND)			
		**********			
	A-3016-948-A	MAIN BOARD, COMPLETE (FS497:AEP,IT,E,E1)			
		**********			
	1-501-917-11	ANTENNA, FERRITE-ROD			
	3-381-629-01	SCREW, (B) (1.4X3), TAPPING			
*	3-921-876-01	JOINT (B)			
	3-921-877-01	SPRING, BATTERY COIL			
	3-921-878-01	TERMINAL BOARD, BATTERY			
		< CAPACITOR >			
C1	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C2	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C3	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C4	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C5	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C6	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C7	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C8	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C9	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C10	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C11	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C12	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C13	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C14	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C15	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C16	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C17	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C18	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C19	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C20	1-135-221-11	TANTAL. CHIP	3.3uF	20%	4V
C21	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C22	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C23	1-109-935-11	TANTAL. CHIP	4.7uF	20%	4V
C24	1-115-156-11	CERAMIC CHIP	1uF		10V
C25	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (FS499)
C25	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V (FS497:US,CND)
C25	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V (FS497:AEP,IT,E,E1)
C26	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V (FS497:AEP,IT,E,E1)
C26	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V (FS497:US,CND)
C26	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (FS499)
C27	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (FS499)
C27	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (FS497)
C28	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (FS497)
C28	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (FS499)
C29	1-115-156-11	CERAMIC CHIP	1uF		10V
C30	1-115-156-11	CERAMIC CHIP	1uF		10V
C31	1-124-434-00	ELECT	220uF	20%	4V
C32	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C33	1-109-935-11	TANTAL. CHIP	4.7uF	20%	4V
C34	1-109-935-11	TANTAL. CHIP	4.7uF	20%	4V
C36	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C37	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C38	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C39	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C41	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C42	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C43	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C44	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C45	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C46	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C47	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C48	1-163-063-00	CERAMIC CHIP	0.022uF		50V
C49	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C50	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C51	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C52	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C54	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C55	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C56	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C57	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C58	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C59	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C62	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C63	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C91	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C92	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C93	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C101	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C102	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C103	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C104	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C105	1-115-156-11	CERAMIC CHIP	1uF		10V
C106	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C107	1-115-156-11	CERAMIC CHIP	1uF		10V
C108	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C131	1-115-156-11	CERAMIC CHIP	1uF		10V (FS499)

MAIN

Ref. No.	Part No.	Description			Remarks
C132	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (FS499)
C133	1-164-505-11	CERAMIC CHIP	2.2uF		16V (FS499)
C201	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C202	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C203	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C204	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C205	1-115-156-11	CERAMIC CHIP	1uF		10V
C206	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C207	1-115-156-11	CERAMIC CHIP	1uF		10V
C208	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C231	1-115-156-11	CERAMIC CHIP	1uF		10V (FS499)
C232	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (FS499)
C233	1-164-505-11	CERAMIC CHIP	2.2uF		16V (FS499)
C301	1-115-156-11	CERAMIC CHIP	1uF		10V
C302	1-126-153-11	ELECT	22uF	20%	6.3V
C303	1-126-153-11	ELECT	22uF	20%	6.3V
C304	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C305	1-115-156-11	CERAMIC CHIP	1uF		10V
C306	1-124-433-00	ELECT	100uF	20%	4V
C307	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C308	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C309	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C310	1-135-221-11	TANTAL. CHIP	3.3uF	20%	4V
C311	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C312	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C313	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C314	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C315	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C316	1-109-935-11	TANTAL. CHIP	4.7uF	20%	4V
C317	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C318	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C319	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C320	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C321	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C322	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C331	1-135-201-11	TANTALUM CHIP	10uF	20%	4V (FS499)
C332	1-164-360-11	CERAMIC CHIP	0.1uF		16V (FS499)
C334	1-135-201-11	TANTALUM CHIP	10uF	20%	4V (FS499)
C335	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (FS499)
C401	1-164-346-11	CERAMIC CHIP	1uF		16V
C402	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C403	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C404	1-126-153-11	ELECT	22uF	20%	6.3V
C405	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C406	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C407	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C601	1-124-434-00	ELECT	220uF	20%	4V
C602	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C603	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C604	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C605	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C606	1-135-187-21	TANTAL. CHIP	2.2uF	20%	4V
C607	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C608	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C609	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C610	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C611	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C701	1-125-639-11	CAPACITOR	56000uF		3.5V
		< FILTER >			
CF1	1-579-823-21	FILTER, CERAMIC			
CF2	1-767-362-11	FILTER, CERAMIC			
		< TRIMMER >			
CT1	1-141-463-11	CAP, ADJ	10PF		
CT2	1-141-463-11	CAP, ADJ	10PF		
		< CONNECTOR >			
CN301	1-695-942-21	CONNECTOR, FPC (ZIF) 6P			
CN302	1-766-584-11	CONNECTOR, FPC (ZIF) 16P			
		< DIODE >			
D1	8-719-032-80	DIODE KV1430-TL			
D2	8-719-032-80	DIODE KV1430-TL			
D3	8-719-951-05	DIODE KV1560			
D4	8-719-049-09	DIODE 1SS367-T3SONY			
D91	8-719-941-86	DIODE DAN202U			
D401	8-719-404-49	DIODE MA111			
D402	8-719-056-89	DIODE UDZ-TE-17-12B			
D701	8-719-049-09	DIODE 1SS367-T3SONY			
		< IC >			
IC1	8-752-072-12	IC CXA1538N			
IC301	8-759-332-69	IC LA4585M-TLM			
IC331	8-759-275-48	IC NJM2185V-TE2 (FS499)			
IC601	8-759-447-73	IC LB1979V-TLM			
		< JUMPER RESISTOR>			
JC1	1-216-295-91	CONDUCTOR, CHIP	(2012)		(FS497:AEP,IT,E,E1)
JC3	1-216-295-91	CONDUCTOR, CHIP	(2012)		
JC10	1-216-295-91	CONDUCTOR, CHIP	(2012)		
JC11	1-216-295-91	CONDUCTOR, CHIP	(2012)		
JC12	1-216-295-91	CONDUCTOR, CHIP	(2012)		
JC13	1-216-295-91	CONDUCTOR, CHIP	(2012)		
		< COIL >			
L2	1-412-967-31	INDUCTOR	0.1uH		
L5	1-415-966-11	COIL (RF)			
L6	1-415-963-11	COIL (OSC)			
L7	1-501-917-11	ANTENNA, FERRITE-ROD			
L8	1-415-962-11	COIL (OSC)			
L302	1-412-983-11	INDUCTOR	2.2uH		
L401	1-412-991-11	INDUCTOR	10uH		

Ref. No.	Part No.	Description				Remarks
		< TRANSISTOR >				
Q1	8-729-602-21	TRANSISTOR	2SC4154-F			(FS497:US,CND,FS499)
Q3	8-729-117-73	TRANSISTOR	2SC4178-F14			
Q4	8-729-014-04	TRANSISTOR	RN1307-TE85L			(FS497:AEP,IT,E,E1)
Q6	8-729-421-26	TRANSISTOR	UN5216			
Q7	8-729-117-83	TRANSISTOR	2SK160A-K25			
Q41	8-729-117-73	TRANSISTOR	2SC4178-F14			
Q42	8-729-230-60	TRANSISTOR	2SA1586-YG			
Q43	8-729-117-73	TRANSISTOR	2SC4178-F14			
Q44	8-729-230-60	TRANSISTOR	2SA1586-YG			
Q45	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q46	8-729-117-73	TRANSISTOR	2SC4178-F14			
Q47	8-729-220-93	TRANSISTOR	2SK209-G			
Q48	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q49	8-729-230-60	TRANSISTOR	2SA1586-YG			
Q91	8-729-230-60	TRANSISTOR	2SA1586-YG			
Q92	8-729-402-13	TRANSISTOR	XN1501			
Q101	8-729-421-26	TRANSISTOR	UN5216			
Q201	8-729-421-26	TRANSISTOR	UN5216			
Q301	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q302	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q303	8-729-421-26	TRANSISTOR	UN5216			
Q304	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q305	8-729-207-73	TRANSISTOR	RN2407			
Q306	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q307	8-729-807-86	TRANSISTOR	2SB1295-UL5			
Q308	8-729-402-13	TRANSISTOR	XN1501			
Q309	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q310	8-729-014-12	TRANSISTOR	RN1311-TE85L			
Q311	8-729-230-60	TRANSISTOR	2SA1586-YG			
Q331	8-729-014-12	TRANSISTOR	RN1311-TE85L (FS499)			
Q401	8-729-602-21	TRANSISTOR	2SC4154-F			
		< RESISTOR >				
R2	1-216-821-11	METAL CHIP	1K	5%	1/16W	(FS497:US,CND,FS499)
R3	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R4	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R5	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R6	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R7	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R8	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R9	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R10	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R11	1-216-817-11	METAL CHIP	470	5%	1/16W	
R12	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R13	1-216-797-11	METAL CHIP	10	5%	1/16W	
R14	1-216-847-11	METAL CHIP	150K	5%	1/16W	
R15	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R16	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R17	1-216-839-11	METAL CHIP	33K	5%	1/16W	(FS497:AEP,IT,E,E1)
R18	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R19	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R20	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R25	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	(FS497)
R25	1-216-841-11	METAL CHIP	47K	5%	1/16W	(FS499)
R26	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	(FS497)
R26	1-216-841-11	METAL CHIP	47K	5%	1/16W	(FS499)
R27	1-216-815-11	METAL CHIP	330	5%	1/16W	
R28	1-216-815-11	METAL CHIP	330	5%	1/16W	
R30	1-216-805-11	METAL CHIP	47	5%	1/16W	
R31	1-216-809-11	METAL CHIP	100	5%	1/16W	
R32	1-216-817-11	METAL CHIP	470	5%	1/16W	
R33	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R34	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R41	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R42	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R43	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R44	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R45	1-216-817-11	METAL CHIP	470	5%	1/16W	
R46	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R48	1-216-805-11	METAL CHIP	47	5%	1/16W	
R49	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R50	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R51	1-216-805-11	METAL CHIP	47	5%	1/16W	
R52	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R53	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R54	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R55	1-216-817-11	METAL CHIP	470	5%	1/16W	
R56	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R57	1-216-797-11	METAL CHIP	10	5%	1/16W	
R91	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R92	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R93	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R94	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R95	1-216-809-11	METAL CHIP	100	5%	1/16W	
R96	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R101	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R102	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R103	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R104	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R105	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R106	1-216-819-11	METAL CHIP	680	5%	1/16W	
R107	1-216-795-11	METAL GLAZE	6.8	5%	1/16W	
R108	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R109	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R201	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R202	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R203	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R204	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R205	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R206	1-216-819-11	METAL CHIP	680	5%	1/16W	
R207	1-216-795-11	METAL GLAZE	6.8	5%	1/16W	
R208	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R209	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R301	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R302	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R303	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R304	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R305	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R306	1-216-789-11	METAL CHIP	2.2	5%	1/16W	

MAIN

Ref. No.	Part No.	Description			Remarks
R308	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R309	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R310	1-216-833-11	METAL CHIP	10K	5%	1/16W
R311	1-216-845-11	METAL CHIP	100K	5%	1/16W
R312	1-216-819-11	METAL CHIP	680	5%	1/16W
R331	1-216-841-11	METAL CHIP	47K	5%	1/16W (FS499)
R332	1-216-797-11	METAL CHIP	10	5%	1/16W (FS499)
R333	1-218-729-11	METAL CHIP	36K	0.50%	1/16W (FS499)
R401	1-216-845-11	METAL CHIP	100K	5%	1/16W
R403	1-216-821-11	METAL CHIP	1K	5%	1/16W
R404	1-216-845-11	METAL CHIP	100K	5%	1/16W
R405	1-216-813-11	METAL CHIP	220	5%	1/16W
R601	1-216-821-11	METAL CHIP	1K	5%	1/16W
R602	1-216-857-11	METAL CHIP	1M	5%	1/16W
R603	1-216-857-11	METAL CHIP	1M	5%	1/16W
R604	1-216-857-11	METAL CHIP	1M	5%	1/16W
R605	1-216-839-11	METAL CHIP	33K	5%	1/16W
R606	1-216-845-11	METAL CHIP	100K	5%	1/16W
R607	1-216-821-11	METAL CHIP	1K	5%	1/16W
R608	1-216-833-11	METAL CHIP	10K	5%	1/16W
R609	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R610	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< VARIABLE RESISTOR >			
RV1	1-223-258-21	RES, ADJ, CERMET 4.7K			
RV301	1-230-593-11	RES, VAR, CARBON 10K/10K(VOLUME)			
RV601	1-241-916-11	RES, ADJ, CARBON 4.7K			
		< SWITCH >			
S301	1-762-624-11	SWITCH, SLIDE(FM SENS,TAPE SELCT)			
S302	1-570-397-11	SWITCH, SLIDE(AVLS)			
S303	1-762-302-11	SWITCH, PUSH (1 KEY)(TAPE POWER)			
S304	1-572-288-11	SWITCH, PUSH (N/R)			
		< TRANSFORMER >			
T1	1-415-960-11	TRANSFORMER, IF (FS497:AEP,IT,E,E1,FS499			
T401	1-449-021-21	TRANSFORMER, DC/DC CONVERTER			

Ref. No.	Part No.	Description	Remarks
		< THERMISTOR >	
TH601	1-810-794-11	THERMISTOR, POSITIVE	
		< VIBRATOR >	
X1	1-767-312-11	FILTER, CERAMIC (DISCRIMINATOR)	
**********			
		MISCELLANEOUS	
		**********	
13	1-664-501-11	PC BOARD, FLEXIBLE (TUNER)	
HP901	1-500-404-11	HEAD, MAGNETIC	
L7	1-501-917-11	ANTENA, FRRITE-ROD	
J301	1-778-224-11	JACK (SMALL TYPE)(WATERPROOF)(PHONES)	
M901	1-698-839-11	MOTOR	
ND701	1-801-538-21	DISPLAY BOARD, LIQUID CRYSTAL	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-016-296-01	STOPPER (BUCKLE)(FS497:US/FS499:US)	
	3-016-377-01	INDIVIDUAL CARTON (FS497:E)	
	3-326-162-02	WASHER, POLYETHYLENE, SLIT	
	3-378-331-01	SCREW, CARRYING CASE	
	3-858-917-11	MANUAL, INSTRUCTION (ENGLISH) (FS497:US,CND,FS499)	
	3-858-917-21	MANUAL, INSTRUCTION (FRENCH) (FS497:CND,FS499:CND)	
	3-858-917-31	MANUAL, INSTRUCTION (ENGLISH,FRENCH,GERMAN,ITALIAN) (FS497:AEP,IT)	
	3-858-917-41	MANUAL, INSTRUCTION (SPANISH,DUTCH,SWEDISH,PORTUGUESE) (FS497:AEP)	
	3-858-917-51	MANUAL, INSTRUCTION (ENGLISH,SPANISH,CHINESE,KOREAN) (FS497:E)	
	3-858-917-61	MANUAL, INSTRUCTION (ENGLISH,SPANISH,CHINESE,KOREAN) (FS497:E1)	
	3-933-997-01	CLIP (BELT)	
	3-933-998-31	BAND (FS499:CND)	
	8-952-478-90	HEADPHONE MDR-E215/Y SET (FS497:AEP,IT,E,E1)	
	8-953-142-90	HEADPHONE MDR-W14G//K SET (FS497:US,CND,FS499)	

Sony Corporation
Personal A&V Products Company

97E1680-1
Printed in Japan © 1997.5
Published by Quality Engineering Dept. (Shibaura)

WM-FS497/FS499

SONY

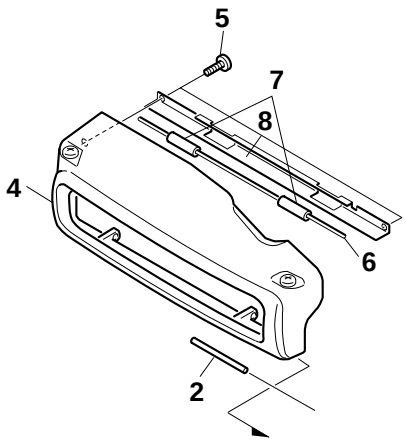
SERVICE MANUAL

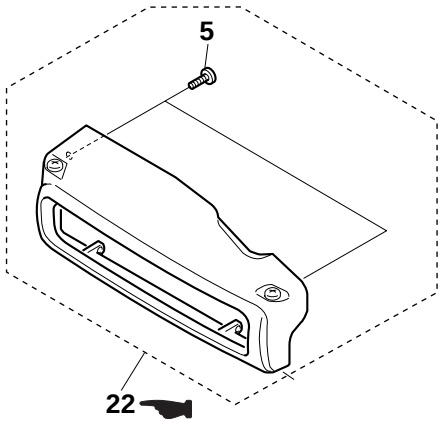
US Model
Canadian Model
WM-FS497/FS499
AEP Model
E Model
WM-FS497

CORRECTION-1

Correct your service manual as shown below.

☛ : indicates corrected portion.

<table>
<tr><th>Page</th><th>INCORRECT</th><th>CORRECT</th></tr>
<tr><td>27</td><td>
Ref. No. | Part No. | Description
4 | 3-008-986-01 | BUCKLE
6 | 3-009-869-01 | SHAFT (ROLLER)
7 | 3-009-870-01 | ROLLER (BUCKLE)
8 | 3-008-999-01 | RETAINER (ROLLER SHAFT)
22 | ———— | ————————


</td><td>
Part No. | Description
———— | ————————
———— | ————————
———— | ————————
———— | ————————
X-3373-976-1 | BUCKLE ASSY


</td></tr>
<tr><td>29</td><td>
Ref. No. | Part No. | Description
109 | X-3371-589-1 | CHASSIS (COMP) ASSY
</td><td>
Part No. | Description
X-3372-958-1 ☛ | CHASSIS COMP ASSY (GL-C)
</td></tr>
</table>

(SPC-97012)

9-923-196-91

Sony Corporation
Personal A&V Products Company

97L1686-1
Printed in Japan © 1997.12
Published by Quality Engineering Dept.
(Shibaura)

WM-FS497/FS499

SONY

SERVICE MANUAL

US Model
Canadian Model
WM-FS497/FS499
AEP Model
E Model
WM-FS497

SUPPLEMENT-1

File this supplement with the Service Manual.

Subject : Central and South America model added. (WM-FS497 only)

- WM-FS497 central and south America model is similar to the earlier WM-FS497. (US model)
- Refer to WM-FS497/FS499 SERVICE MANUAL (9-923-196-11) for information not contained in this SERVICE MANUAL.

Exploded Views

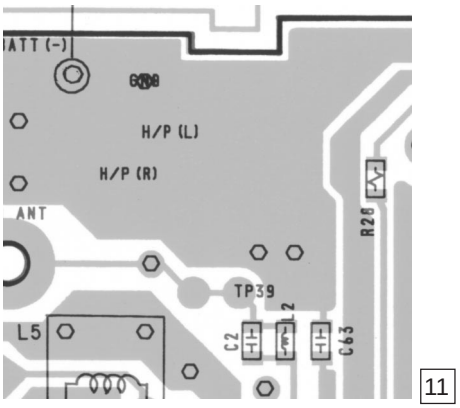
Page	WM-FS497 Central and South America model		
	Ref. No.	Part No.	Description
28	64	A-3016-974-A	MAIN BOARD, COMPLETE

ELECTRICAL PARTS LIST

Page	WM-FS497 Central and South America model		
	Ref. No.	Part No.	Description
31		A-3016-974-A	MAIN BOARD, COMPLETE
	C40	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V
	JC2	1-216-295-91	CONDUCTOR CHIP (2012)
	Q2	8-729-421-26	TRANSISTOR UN5216
34	ACCESSORIES & PACKING MATERIALS		
		3-858-917-71	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE)
		8-952-478-90	HEADPHONE MDR-E215/Y SET

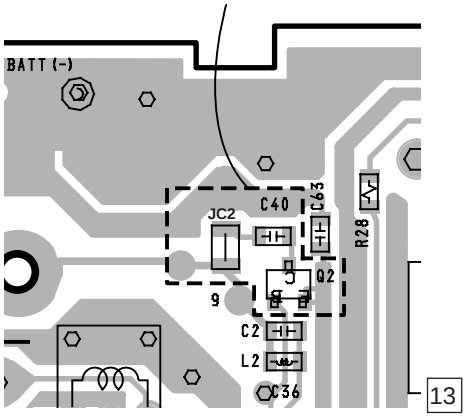
PRINTED WIRING BOARD — MAIN SECTION —

Page 17 (B-3)



WM-FS497 (US model)

WM-FS497 Central and South America model only

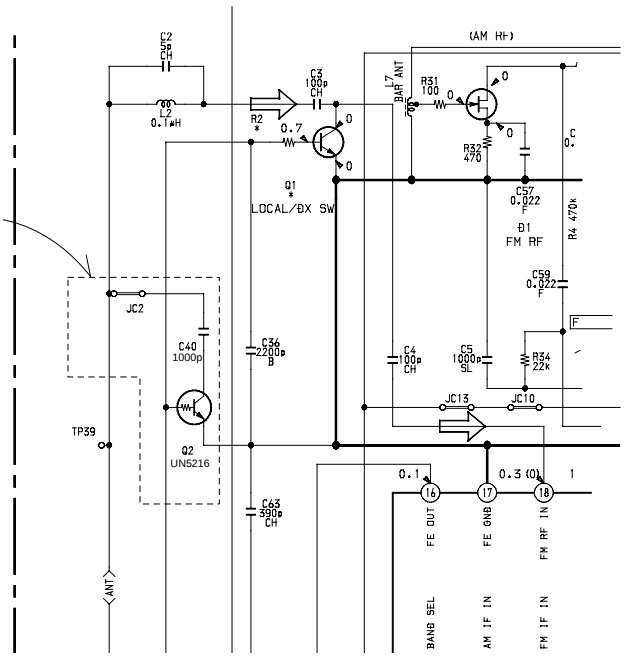


WM-FS497 (Central and America model)

SCHEMATIC DIAGRAM

Page 14 (E-3)

Central And South America Model Only



97H1616-1
Printed in Japan © 1997.8
Published by Quality Engineering Dept. (Shibaura)

WM-FS497/FS499

SONY

SERVICE MANUAL

Ver 1.0 1998.07

US Model
Canadian Model
WM-FS497/FS499
AEP Model
E Model
WM-FS497

SUPPLEMENT-2

File this supplement with the Service Manual.

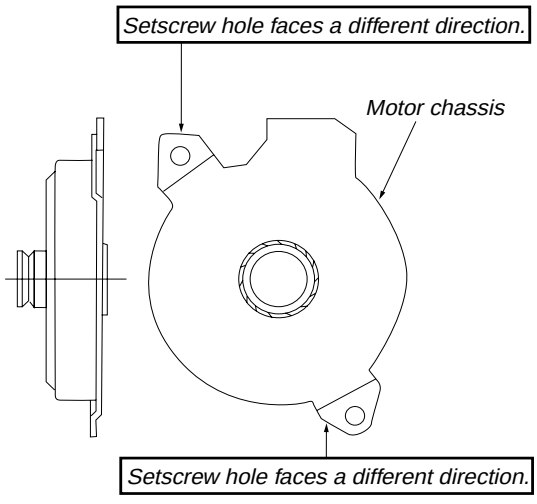
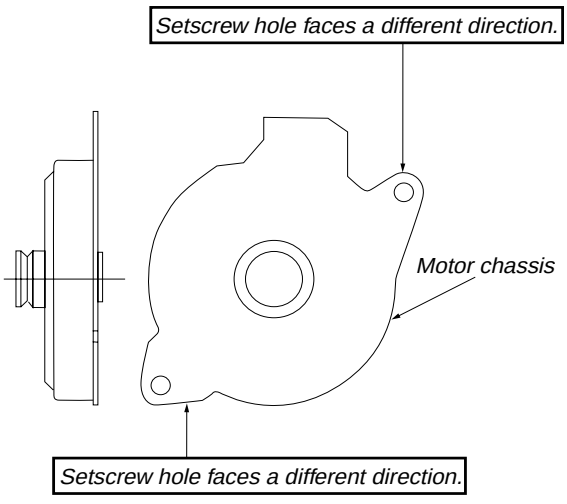
Subject : CHANGE OF MOTOR

(ENG-98005)

CHANGE OF MOTOR

A new motor has been issued for this equipment.
However, the maintenance deck and the outer cabinet are not compatible with this new motor and must also be replaced the same product when you replace the motor.
You can identify these different sets by the shape of the motor.

- **How to identify the Motor**

Former Type (1-698-839-11)	New Type (1-763-073-11)
	

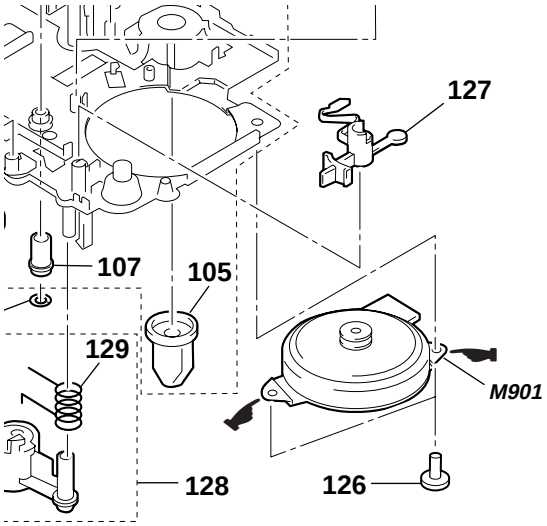
Setscrew hole faces a different direction.
Motor chassis
Setscrew hole faces a different direction.
Setscrew hole faces a different direction.
Motor chassis
Setscrew hole faces a different direction.

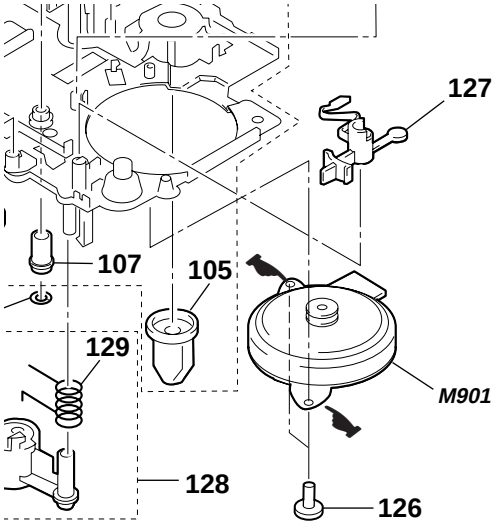
● **EXPLODED VIEWS** (Service Manual See page 29, 34)

DIFFERENT PARTS LIST

☛ : Indicates different portion

	Former Type				New Type		
Page	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
29,34	M901	1-698-839-11	MOTOR		1-763-073-11	MOTOR	





CHANGED PARTS LIST

	Before change				After change		
Page	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
29	111	3-920-992-01	SPRING (STOP)		3-015-436-01	SPRING (STOP)	
	115	X-3369-752-1	CLUTCH ASSY		X-3375-837-1	CLUTCH ASSY	
	124	3-921-022-01	LEVER (B), DETECTION		3-929-419-01	LEVER (BR), DETECTION	

98G1683-1
Printed in Japan © 1998.7
Published by Quality Engineering Dept. (Shibaura)

WM-FS497/FS499

SONY

SERVICE MANUAL

US Model
Canadian Model
WM-FS497/FS499
AEP Model
E Model
WM-FS497

Ver. 1.0 1998. 10

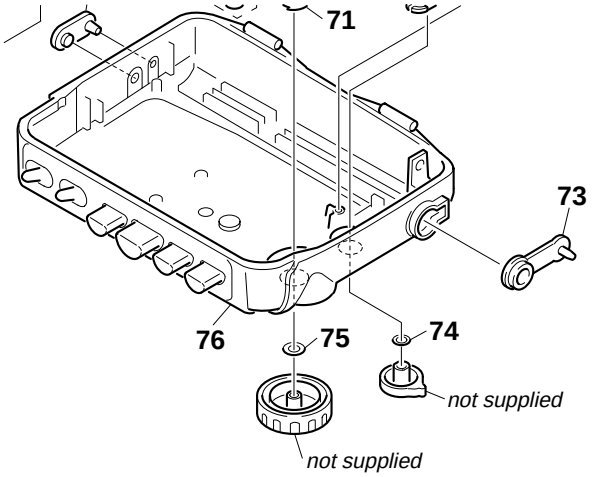
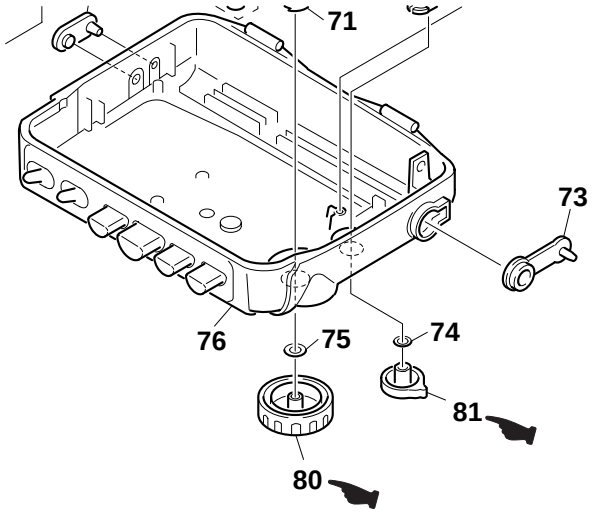
SUPPLEMENT-3

File this supplement with the Service Manual.

Subject :
- **Black color added. (FS499: US model)**
- **Correction**

Page	Before Change			After Change	
	Ref. No.	Part No.	Description	Part No.	Description
27	1	A-3010-514-A	CABINET (REAR) ASSY (FS499:US)	A-3010-514-A	CABINET (REAR) ASSY (YELLOW) (FS499:US)
	1	A-3010-518-A	CABINET (REAR) ASSY (FS497:US,CND,E)	A-3010-518-A	CABINET (REAR) ASSY (YELLOW) (FS497:US,CND,E)
	1	A-3010-521-A	CABINET (REAR) ASSY (FS497:AEP,IT)	A-3010-521-A	CABINET (REAR) ASSY (YELLOW) (FS497:AEP,IT)
	1	A-3010-522-A	CABINET (REAR) ASSY (FS497:E1)	A-3010-522-A	CABINET (REAR) ASSY (YELLOW) (FS497:E1)
	1	A-3050-373-A	CABINET (REAR) ASSY (FS499:CND)	A-3050-373-A	CABINET (REAR) ASSY (BLACK) (FS499)
	* 12	3-012-983-11	ESCUTCHEON (LCD) (FS497:E,E1)	3-012-983-11	ESCUTCHEON (LCD) (YELLOW) (FS497)
	* 12	3-012-983-11	ESCUTCHEON (LCD) (FS497:US,CND,AEP,IT)	———	———
	* 12	3-012-983-01	ESCUTCHEON (LCD) (FS499:US)	3-012-983-01	ESCUTCHEON (LCD) (YELLOW) (FS499:US)
	* 12	3-012-983-21	ESCUTCHEON (LCD) (FS499:CND)	3-012-983-21	ESCUTCHEON (LCD) (BLACK) (FS499)
	14	3-922-849-11	PACKING, CABINET (FS497,FS499:US)	3-922-849-11	PACKING, CABINET (YELLOW) (FS497,FS499:US)
	14	3-922-849-21	PACKING, CABINET (FS499:CND)	3-922-849-21	PACKING, CABINET (BLACK) (FS499)
	15	X-3373-626-1	HOLDER (CASSETTE) SUB ASSY (FS499:US)	X-3374-394-1	HOLDER (CASSETTE) ASSY (YELLOW) (FS499:US)
	15	X-3373-771-1	HOLDER (CASSETTE) SUB ASSY (FS497)	X-3374-453-1	HOLDER (CASSETTE) ASSY (FS497)
	15	X-3373-886-1	HOLDER (CASSETTE) SUB ASSY (FS499:CND)	X-3374-396-1	HOLDER (CASSETTE) ASSY (BLACK) (FS499)
28	76	X-3373-511-1	CABINET (REAR) SUB ASSY (FS497:E1)	X-3374-401-1	CABINET ASSY REAR (YELLOW) (FS497:E1)
	76	X-3373-627-1	CABINET (REAR) SUB ASSY (FS499:US)	X-3374-395-1	CABINET ASSY REAR (YELLOW) (FS499:US)
	76	X-3373-629-1	CABINET (REAR) SUB ASSY (FS497:AEP,IT)	X-3374-400-1	CABINET ASSY REAR (YELLOW) (FS497:AEP,IT)
	76	X-3373-630-1	CABINET (REAR) SUB ASSY (FS497:US,CND,E)	X-3374-454-1	CABINET ASSY REAR (YELLOW) (FS497:US,CND,E)
	76	X-3373-887-1	CABINET (REAR) SUB ASSY (FS499:CND)	X-3374-397-1	CABINET ASSY REAR (BLACK) (FS499)

☛ : indicates corrected portion.

Page	Before Change	After Change
28		

Ref. No. | Part No. | Description

80	————	————————
80	————	————————
81	————	————————
81	————	————————

Part No. | Description

3-008-990-01	KNOB (VOL) (YELLOW) (FS497, FS499:US)
3-008-990-11	KNOB (VOL) (BLACK) (FS499)
3-008-991-01	KNOB (AVLS) (YELLOW) (FS497, FS499:US)
3-008-991-11	KNOB (AVLS) (BLACK) (FS499)